

Mrs. Henry Chapman

Guide Book

TO THE

Tiled Pavement

IN THE

Capitol of Pennsylvania

1910

92H/16/12.42

Guide Book

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The Tiled Pavement

IN THE

Capitol of Pennsylvania

BY

Henry C. Mercer.

Each mosaic in the pavement is numbered with a number stamped upon one of the square red background tiles close to the *bottom sides* or *top* of the mosaic. And each picture in this Guide Book is numbered to correspond with the number of the mosaic it illustrates. *The numbers are not set in numerical sequence.*

To find the description of a given mosaic in the Guide Book first observe its stamped number on the pavement then turn to the page indicated for this number in the numerical reference list of the mosaics on pages 1 and 2.

A number of the mosaics have been repeatedly duplicated. A few have been numbered by mistake with numbers duplicated on other mosaics, or by numbers stamped within the limits of the mosaics themselves. These can be identified by their illustrations. Several mosaics whose numbers may or may not appear have been concealed under candelabra and other objects.

Notice.

The sequence of the pictures in the Guide Book follows the chronological sequence of the mosaics on the pavement.

In order to follow the mosaics in chronological sequence, approach the Capitol in front, and enter it, not at the main middle doorway, but at the left wing entrance. Follow the mosaics across the areas of pavement by way of this entrance proceeding inwards and from left to right.

The words *right* and *left* applied to areas of pavement in this Guide Book refer in direction to corridors, lobbies and vestibules situated to the right or left hand of an individual entering the Capitol by the main (middle) front entrance.

Price 25 Cents.

92H/16/12.42

Preface.

F159
H3M4

The pavement, intended to contrast in its rough texture and dominant red color with the smooth white marble walls of the Capitol, consists of upwards of four hundred plaques or mosaics, made of colored burned clay, set irregularly without borderings, against a background of small hand-made and widely-jointed red tiles. The patterns are made of large clay units, the outlines of which often help to delineate the design, as in the case of stained glass windows where pieces of glass, of varying size and shape, are set together with bands of lead, just as these units are set together with rather broad joints of cement.

Varying considerably in size, but generally not more than five feet in diameter, or gauged so as to focus the human eye at a distance of five or six feet, the mosaics may stand for mere patches of harmonious color to the individual who rapidly walks across them, while it is only to him who pauses and studies them carefully that their full significance gradually appears. What the observer sees is less a picture than a decoration. The drawing is simplified so as to satisfy the clay process. The colors of men, animals and objects are fantastic and not realistic. The skies may be red, the water black, the trees yellow.

Yet, though the result may please the eye and adorn the floor, the mosaics are intended to be not only thus decorative, but significant, reasonably expressing, within the limits of the craft which produced them, facts and events in the history of Pennsylvania and the life of its inhabitants.

Beginning at the north (left) vestibule with the Indian making fire, chipping arrow heads, paddling his boat, smoking tobacco, cultivating Indian corn, with typical inscriptions from his rock carvings and examples of his implements in stone, we pass to the European colonists felling the forest and building the log cabin, spinning, weaving, and cooking in the open fire, and to thoughts of the mining of coal, iron and petroleum. Thence, by way of great resultant developments in the form of blast furnaces, oil wells, locomotive engines, manufactures, and the manipulation of iron, we reach the symbols of today in the telegraph, trolley and automobile. To preserve continually the memory of the forest from which the State takes its name, the leaves of trees and the forms of reptiles, birds and animals frequently appear. Historical events are not omitted, but take a minor place.

It is the life of the people that is sought to be expressed; the building of a commonwealth economically great, by the individual work of thousands of hands, rather than by wars and legislatures; the successful toil, the energy and self reliance of a number of Europeans, who, taking possession of a rich and fertile region, dispossessed a weaker race, removed an all-pervading forest, contended with the forces of nature, constructed a government, and dug up and utilized the riches of the soil.

Gift.
March 1903
Booker T. Washington
National Academy of Sciences
Washington, D. C.

Numerical Reference List.

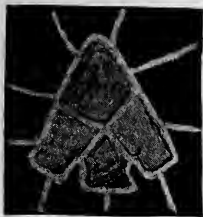
1

Numbers here set in numerical sequence to the left of the mosaic names, correspond with mosaic numbers stamped in the pavement. Numbers to the right of the mosaic names, refer to the pages in this Guide Book containing illustrated descriptions of the mosaics pertaining to their stamped numbers.

MOSAIC			MOSAIC			MOSAIC		
No.	Name	Page	No.	Name	Page	No.	Name	Page
1	Oak Leaves	22	82	Flind Lamp	39	162	Moth	69
2	The Axe	23	82	Grasshopper	54	163	Shelling Corn	68
3	Sour Gum	23	83	Bear Trap	43	164	Type Setter	69
4	Log House	22	84	Gridiron	43	165	Porcupine	71
5	Felling the Forest	23	85	Quail	44	166	Cricketer	71
6	Orchard Oriole	24	85	Skunk	54	167	The Pine	70
7	Red-eyed Vireo	24	86	Oak Leaves	3	168	Skillet	71
8	Hickory	24	88	Domestic Turkey	44	169	Opossum	67
9	Pioneer Rifleman	24	89	Milking the Cow	45	170	The Oak	72
10	Beaver	25	90	Washington Cross- ing the Delaware	46	171	Wild Duck	71
11	Shovel Plow	25	91	Elk	48	172	Snapping Turtle	66
12	Grey Squirrel	24	92	Butterfly	44	174	Cherries	69
13	Sickle	25, 94	93	Apples	70	175	House Fly	67
14	Song Sparrow	26	94	House Fly	44	176	Grasshopper	70
15	Hickory	27	95	Black Bear	46	177	Quail	73
16	Beehive	25	95	Grasshopper	53	178	Blas Furnace	71
17	Dutch Scythe	26	96	Conestoga Wagon	45	180	Franklin's Kite	79
18	Baltimore Oriole	27	97	Penn's Treaty	42	181	Wild Turkey	81
19	Cardinal Bird	26	98	Bat	42	182	Seal of Penna.	72
20	Sour Gum	26	99	Pine Cones	45	183	Stage Coach	72
21	Sharpening Scythe	27	100	Dragon Fly	41	184	Butterfly	79
22	Opossum	28	101	Wooden Plow	56	185	Death of Tammany	81
23	Scarlet Tanager	27	102	Making Farm Fence	41	186	Snapping Turtle	46
24	Beaver	80	103	Locust	41	187	The Elm	72
25	Indian Walk	28	105	Oysters	53	188	Clover Stripper	82
26	Blackbird	29	106	Cider Flagon	48	189	Fitch's Steamboat	73
27	Catbird	28	107	Locomotive Engine	57	190	The Flail	85
28	Grey Squirrel	28	108	Flax Reel	54	191	Felling the Forest	80
29	Dinner Horn	29	109	The Spud	47	192	Chimney Swallow	74
30	Sour Gum	29	110	Cherries	45	192	Pears	81
31	Woodpecker	30	111	Oysters	54	193	Cherries	73
32	Hickory	29	112	Dutch Oven	55	194	The Pine	79
33	Gristmill	30	114	Flying Squirrel	56	195	Blue Jay	80
34	Robin	80	115	Black Bear	56	196	Oak Leaves	81
35	Grey Squirrel	30	116	Spinning Wool	48	197	Seal of Penna.	70
36	Woodpecker	30	117	Oil Well	49	198	Pears	79
37	Spinning Flax	31	118	Forging a Chain	48	200	Seal of Phila.	82
38	Tin Lantern	31	119	Pine Cones	47	201	Husking Corn	84
39	Sour Gum	31	120	Flax Brake	47	202	Crow	84
40	Wild Duck	31	121	Loon	49	203	Shoemaker	84
41	Orchard Oriole	32	122	Germantown Seal	49	204	House of Steel	83
42	Clearing the Forest	32	123	Steel Plate	46	205	Wolf	82
43	Catbird	32	124	Oak Leaves	47	206	Shad	86
44	Hawk	33	125	Skunk	50	207	Fall of the Forest	83
45	Elk	33	126	Grapes	50	209	School In	86
46	Chimney Swallow	32	127	Liberty Bell	50	210	School Out	83
47	Splitting Shingles	33	129	Coal Dealer's Wagon	49	211	Seal of Bucks Co.	74
48	Woodpecker	34	130	Wild Duck	50	212	The Sower	86
49	Cardinal Bird	33	131	Coal Miner	49	214	Steel Plate	82
50	Vireo	34	132	Moose	48	215	Heckewaelder	51
51	Screech Owl	35	133	Snapping Turtle	59	216	Factories	88
52	Dipping Candles	34	134	Conestoga Wagon	45	218	Plover	85
53	Oak Leaves	33	135	Bat	60	219	Red Bird	86
54	Sugar Maple	35	136	Churning Butter	57	220	Apples	86
55	The Flail	35	137	Letitia House	56	222	Grapes	83
56	Redbud	34	138	Woodpecker	57	225	Seal of Penna.	87
57	Sour Gum	34	139	Keystone	55	226	The Pine	83
58	Cooking Applebutter	35	140	Squirrel	55	227	Pears	84
59	Stove Plate	36	141	Barn Owl	70	231	Indian Hoeing Corn	8
60	Shovel Plow	36	142	Skunk	57	237	Crow	21
61	Spud	36	143	Sickle	60	240	Mask of Owl Man	5
62	Catching Terrapin	37	144	Opossum	58	241	Banner Stone	9
63	Lard Lamp	37	145	Woman Baking	59	242	Indian Knife	3
64	Sour Gum	37	146	Cherries	7	243	Ceremonial Stone	9
65	Wild Duck	38	147	Man Using Frow	59	244	Stone Spade	4
66	Paring Apples	38	148	Dog	58	245	Indian Pipe	3
67	Open Fire Frying	38	149	Grapes	59	246	Indian Net Sinker	4
68	Candlestick	39	150	Loon	59	247	Indian Spear	4
69	Song Sparrow	38	152	Wild Cat	66	248	Arrowhead	3
70	Carpenter's Hatchet	40	153	House Pump	67	249	Indian Making Fire	4
71	Husking Corn	40	154	Chicken Cock	68	250	Making Arrowheads	6
72	Stove Plate	40	155	German School	68	251	Buttonwood	6
73	Kingfisher	41	156	Oysters	68	252	Black Bear	5
74	Swingling Flax	41	157	Loon	66	253	The Linden	6
75	Mortar and Pestle	42	158	Keystone	66	254	Opossum	5
76	Making Bricks	42	159	Bumblebee	80	255	Indian Corn	8
77	Wyoming Massacre	43	160	Barrack	69	256	Rattlesnake	7
78	Heron	43	161	Chickens	67	257	Mask Amulet	3
79	Tinder Box	39				258	Sweet Gum	6
80	Pounding Howiny	39				260	Indian Gorget	7

Numerical Reference List.

MOSAIC			MOSAIC			MOSAIC		
No.	Name	Page	No.	Name	Page	No.	Name	Page
263	Catalpa	7	315	Castling Iron	52	370	Muskrat	52
264	Paddling Canoe	9	316	Playing Marbles	89	371	Rabbit	95
265	Indian Pipe	8	317	Sunfish	85	372	Potter Terrapin	95
266	Grinding Corn	6	318	Blue Jay	20	373	Battleship	51
267	Indian Amulet	8	319	Quail	15	373	Shad	61
268	Stone Axe	3	320	Wild Turkey	19	374	Rattlesnake	63
269	Arrowhead	7	321	Wild Cat	15	375	Arms of Penna.	65
270	Heckewaelder	10	322	Indian Brooch	15	376	Iron Miner	64
271	Wolf	10	323	Quarrying Jasper	16	377	Iron Miner	66
272	Ceremonial Stone	12	324	Rattlesnake	19	378	Gettysburg	61
273	River of Fire	15	325	Primitive Smoking	18	379	North and South	61
274	Indian Gorget	9	326	Basket Maker	20	380	Well Sweep	62
275	Arrowhead	10	327	Wampan Belt	18	381	Blue Jay	53
276	Indian Pipe	10	328	Tortoise	19	382	Stephen C. Foster	61
277	The Linden	5	329	Hawk or Eagle	20	383	Baltimore Oriole	65
278	Spider	13	330	Spider	17	384	Kittens	60
279	Making Canoe	10	330	Potter Terrapin	78	385	Butterfly	52
280	Indian Shooting	11	331	Indian Brooch	22	386	Oil Well	63
281	Indian Smoking	12	331	Robin	74	387	Cricket	64
282	Indian Pipe	13	332	Rattlesnake	22	388	Typewriter	64
283	Arrowhead	13	333	Indian Carvings	21	389	Gettysburg	94
284	Indian Celt	14	334	Indian Carving	19	390	Chicken	51
285	Grooved Axe	11	335	White Children	17	391	Shoeing the Horse	62
286	Ceremonial Stone	12	336	Red Fox	16	392	Redbud	64
288	Catalpa	11	337	Raccoon	16	393	Boy Rolling Hoop	63
288	Redbud	12	338	Rattlesnake	18	394	Sheep	63
289	Grooved Stone Axe	10	339	Human Head	17	396	Rabbit	64
290	Indian Tubular Pipe	11	340	Indian Drawing	14	397	Turtle Carapace	65
291	The Elm	13	341	Indian Drawing	62	398	Crab	65
292	Pine Cones	14	342	The Telegraph	52	399	Fox	51
293	Arrowhead	9	343	Bullfrog	16	400	Death of Braddock	62
294	Indian Drill	11	344	Indian Drawing	21	401	Weasel	52
295	Arrowhead	13	345	Weasel	21	402	Washington Cross- ing the Delaware	94
296	Arrowhead	14	346	Muskrat	90	403	Rabbit	76
297	Spearhead	14	347	Locust	18	404	Rattlesnake	76
298	Massacre of Indians	13	348	Turtle Carapace	62	405	Mole	77
299	Indian Carving	20	349	Porcupine	20	406	Crab	77
300	Mason and Dixon	87	350	Muskrat	17	407	Box Tortoise	78
301	Reaping Machine	87	351	Trolley Car	93	408	Weasel	76
302	Skating	85	352	Franklin's Press	92	409	Indian Carving	77
303	Declaration of In- dependence	88	353	Automobile	91	410	Indian Carvings	75
304	Trotting Horse	90	354	Mole	94	411	Indian Rock Carving	77
305	Photographer	91	355	Grain Elevator	90	412	Raccoon	78
306	Fitch's Steamboat	91	356	Sheep	90	413	Indian Turtle	76
307	The Telephone	89	357	Shad	93	414	Eel	75
308	Buttonwood	89	358	Coal Breaker	91	415	Bullfrog	74
309	Hoeing Corn	89	359	Pioneer Rifleman	55	416	Indian Panther	78
310	The Elm	87	360	Flying Squirrel	92	417	Grasshopper	76
311	Sweet Gum	90	361	Plover	93	418	Song Sparrow	75
312	Seal of Phila.	91	362	Dragon Fly	92	419	Indian Carving	75
313	Conch Horn	88	363	Potter Terrapin	93	420	Kingfisher	74
314	Potter at the Wheel	88	366	Rattlesnake	92			
			369	Gasometer	93			



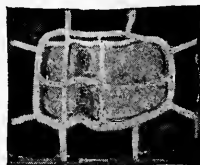
248

Arrowhead. 248. The Indian quarried jasper in the Lehigh hills at Vera Cruz, Macungie and Wiedler's Run. At Macungie he excavated pits, sometimes 19 feet deep, digging over and disturbing several acres of the earth to this depth with stone spades and pointed poles, often cracking the native rock with fires built upon it, to obtain the raw material for the point of his all-important arrow.

Indian Grooved Stone Axe. 268.

The cutting edge of the pebble or other hard stone, formed into the

required axe shape by pecking with another stone and rubbing smooth, is necessarily dull. Hence to cut down a tree with one of these axes mounted upon a twisted withe, the Indian first charred the lower trunk with fires built around the base of the tree.



268

Ceremonial Mask Amulet. 257.

One of the masks, grotesque, frightful, diabolic, worn in ceremonies by priests of the Lenni Lenape or Delaware Indians, is here represented from an original of wood two or three inches long, with human face carefully carved and polished, furnished with Venetian glass-bead eyes, and consequently made after contact with white men. Still preserved in Philadelphia, the amulet was presented to the family of its present owner by Tedyuscung, the Delaware chief.



257

Oak Leaves. 86. Long lived, colossal, durable, with color-producing bark, hard wood and sawdust highly valued by the carpenter, the slow-growing oak, familiar in Europe and Asia, is unknown in Australia and tropical Africa. In various American forms, as the black, red, pin, white and swamp oak, it ennoble the forests of America in the north temperate zone. The familiar ashen-barked white oak was the frequently named land mark in old deeds.



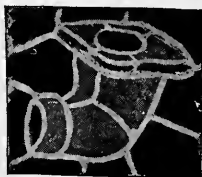
86

Indian Knife. 242. The mosaic shows one of the small, acutely pointed triangles of jasper or flakeable stone sharpened into chisel shape at the broad end, used by Indians unmounted for pocket knife, chisel, needle, punch and scraper.



242

Indian Pipe. 245. Having invented the process of smoking crumbled tobacco leaves, always largely mixed with osier cornel inner bark, or bearberry



245

leaves, or other herbs, the Indian made tobacco pipes of clay, bonfire baked, or carved from the soapstone quarried along the Delaware or Potomac, or from the celebrated red pipestone or catlinite imported from the ancient Indian quarry in Missouri.



246

edge of the hearth stick, about a foot long or less, and two or more inches broad, (of cedar, pine, yucca or slippery elm), so that the charred dust thus frayed up by the twirling runs over the hearth's edge down a notch previously cut, upon some dry surface, and until the smoking dust pile glows with an internal spark. Then touch the ember with tree fungus, called punk, and blow the latter when aglow against vegetable fibre (arbor vitæ frayed and scorched, cedar, or inner birch bark) for a flame in from eight to fifty seconds. Make your first experiments in a museum with original fire sticks, tested and well dried, or your ill-chosen woods and tinder will fail you when you seek to master the primeval craft of the Lenni Lenape, Choctaw, Cherokee, Apache, Ute, Zuni, Shoshone, Bilhula or Klamath. The fire which it takes

Grooved Indian Net Sinker. 246. A pebble encircled with a shallow groove, was tied by Indians to the fish net woven of cords twisted from Indian hemp (*Apocynum cannabinum*) and other vegetable fibre, as a sinker.

Indian Making Fire. 249. Twirl the two-foot-long spindle, not twice as thick as a lead pencil (of cedar, buckeye, grease wood or slippery elm), upon the



249

the Aino of Japan thus an hour and a half to make, has been produced by the dexterous Pueblo in a few seconds. But when you thus twirl the potent spindle after the fashion of the Masked Priest in the Mayan Codex Trojano, get two or three friends to help you, seizing the fire stick by turns, and after throwing water on the wood, with united desperate effort, make, if you can, the sacred fire of Zuni.



244

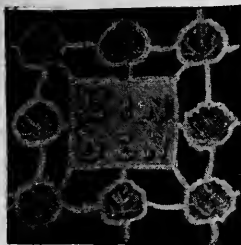
planter scratched holes in the primeval loam, working either with sharp charred sticks, or flat stones about six inches wide and one inch thick, chipped into the form of spades as represented in the mosaic.

Indian Spear. 247. Certain early Spanish travelers having noted the use of spears by North American Indians, we may infer that many of the chipped stone blades longer than $2\frac{1}{2}$ inches, and often found

Indian Stone Spade. 244. Having killed and dried a number of trees by "blazing" them, so as to admit sunlight into the forest, the Indian corn



247



277

creamy summer flowers beloved by bees, with its large heart-shaped leaves and dense shade, glorifies the Pennsylvanian forest.

The Black Bear. 252.

(*Ursus americanus*.) With dog and gun, man finds a bloody amusement in rapidly exterminating the honey-loving, ant-fish-root-eating, vegetarian and carnivorous black bear. Glossy black, brown-cheeked, dog-fearing, harmless (unless with cubs or in self-defense), the tree-climbing, hibernating animal was revered, almost worshipped, yet hunted and eaten by Indians in the primeval forest.



252

Close kin to the brown bear of Europe, the once abundant black bear in vain retires to inaccessible places to escape the relentless and untiring hatred of his human pursuer.

Mask of the Owl Man. 240.

The mosaic illustrates one of the ceremonial, horrible, human masks, symbolizing ideas of birds, animals, reptiles, or the forces of nature, worn by Indian Priests and sometimes described by travelers, but rarely found by archaeologists, as recently were many such in the wood-preserving mud of an East Florida swamp. The miniature wooden original, about three inches long, well



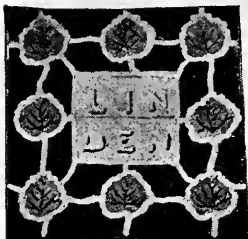
240

carved and polished, with convex silver discs for eyes, was given to the family of its possessor by Tedyuscung, the Lenni Lenape Chief.

The Opossum. 254. (*Didelphys virginiana*.) Sluggish, easily caught, persimmon-loving, prehensile-tailed, death-counterfeiting, related to the marsupial kangaroo of Australia, prolific, and carrying its four to twelve young in a breast pouch, the opossum, defying extermination by man, and hurting his human enemy by blood-sucking the latter's table chickens, is here represented as climbing through the branches of a tree.



254



253

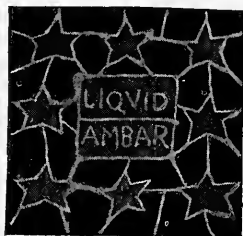
The Linden. 253. (*Tilia americana.*) Tracing its ancestry to the fossil trees of Arctic tertiary times, the noble linden or basswood with its inner fibrous bark or bast fit for basket making, gave its name (line or lind for linden) to the celebrated Swedish botanist, Carl Linne, or as Latinized, *Linnaeus*. The massive noble tree, with its ruby winter buds and creamy summer flowers beloved by bees, with its large heartshaped leaves and dense shade, glorifies the Pennsylvanian forest.

Indian Making Spear Blades. 250.

After the manner of most primitive peoples in the Stone Age, the Indian begins to make the stone blade by chipping a flakable mass of natural jasper as only he can chip it, into a leaf-shaped pattern, by means of hammering with a quartzite pebble. Seated near one of the natural outcrops of jasper in the Lehigh hills, the master craftsman, whether Delaware, Nanticoke, Iroquois or Susquehannock, until about the year 1650, with a skill never equaled by civilized peoples, made blades large or small, thin or thick, for use as arrow points, spearheads, knives, scrapers or perforators.



250



258

Sweet Gum. 258. (*Liquidambar styraciflua.*) The lofty, erect, sweet gum, with its burrlike, brown winter fruit, winglets of corky bark skewered through its branchlets like the scales of an alligator, called liquid-ambar and alligator wood, is not so resinous as its Asiatic cousins producing the storax gum. With its five-pointed leaves of unsurpassable beauty, it outvies the foliage of maple trees in the flaming glory of its autumn color.

to one hundred feet high, with conspicuous scaly bark, is decorated over winter with brown button-shaped fruit. Massive limbed, with open shade, early bared in autumn, and with scaly bark glittering white green and gray along the river, the tree was the farmer's choice of old to shade the spring house.

Indian Grinding Corn. 266.

In a stone dish hollowed by pecking with another stone, by means of the precious and laboriously made slim stone cylinder, the pestle, the Indian woman pulverized grains of maize, dry or fire parched, into a meal, mixable with mashed boiled pumpkins, beans or chestnuts, and baked, with dried venison or huckleberries, on a hot

Buttonwood. 251. (*Platanus occidentalis.*) The huge sycamore tree, seventy



251

stone, or in oak bark embers, thus originating the "johnny," "hoe" and "ash" cake of the imitative Virginia negro.

Arrowhead.

269. Although the irregular and eccentric unchipped stone flakes of the Easter Islanders and pre-historic Japanese were not known in America, there was a great variety of form in



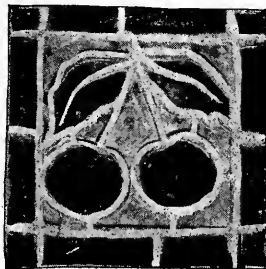
269



266

the points of Indian arrows, chief of which may be noted the barbed, as here shown, for lacerating a wound, and the unbarbed which would pull out easily.

Cherries. 146. (*Cerasus*.) Rival of the strawberry, beloved of boys and birds, associated with the flavor of cherry bounce and pie, the delicious European fruit, in its best known forms of pie, ox-heart, or black cherry, when freshly imported, and grown by the log cabin of the pioneer, may have been seen by the Indian before his expulsion from Pennsylvania.



146

The Pennsylvanian must thank the

horticulture of his European ancestors for this fair fruit of early summer, brought to Europe by Lucullus the Roman epicure, from *Cerasus* of Asiatic Pontus. Cultivated for centuries in France England and Germany, the cherry tree, if in Pennsylvania degenerating in fruit, has not failed in the magnificence of its white bloom, which, gladdening the roadsides when the meadow lark sings his spring song, only yields to those blossoms which the Japanese wonder at on April seventh.

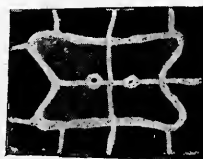


256

Indian Picture of the Rattlesnake. 256.

Not in America

only but throughout the world, the serpent, hated, worshipped and feared, pervades in thought and shape the religious symbolism of primitive peoples. Here, it is the malignant head with open jaws, surrounded by a scaled coil of the deadly rattlesnake (*Crotalus horridus*), as scratched by a mound-building Indian upon a breast plate of shell, that the mosaic reproduces.



260

Indian Gorget. 260. One of the thin tablets of slate or shale, generally smooth and oblong, perforated with two holes, frequently found at Indian village sites, and in mounds; or when in graves, generally near the breast of the skeleton, and called gorgets, though the early travelers do not describe them in use.

Catalpa. 263. (*Catalpa catalpa*.) Native of the warmer forests of the Gulf States, transplanted from the South to the Pennsylvanian woods, the large-leaved, heavily white-flowered candle tree,



263

achieves a popularity as great in the eyes of civilized as of savage man. Civilization may not thank the Indian for his great gift, but the discoverers brought maize in triumph to Spain, and because no European carved or painted design shows the plant before Columbus, because literature fails to mention it, this so-called *gukurutz* of Turkey, the *grano turko* of Italy, masking its American origin in Oriental names, testifies to the agriculture of the Indian. As excessively eaten by man in Lombardy (under the familiar name of polenta) and cause of the disease called pelegra, waving its green fronds in Turkey, gladdening the plains of Asia and the clearings of the Congo, whether indigenous to darkest Africa or not, the plant may justly be regarded as one of the Indian's greatest gifts to the civilized world.

or Indian bean, or catalpa, as the Cherokees called it, has escaped from cultivation in the North, to scatter its winged seeds and shine with its white and purple-tinted flowers in shady woods and along the banks of streams.

Indian Corn. 255. Cultivated universally in the New World, protected from winter death by continual care, cooked by the Indians in many prehistoric ways not yet imitated, propagated far north of its Mexican birthplace, the world-wide, the prolific and super-nourishing maize (*Zea mays*) the beautiful, or Indian corn,



255



265

Indian Pipe. 265. The mosaic shows a remarkably worked black stone nearly a foot long, carved by Indians with immense pains for use as a tobacco pipe. The specimen, suggesting in form the tail of an eel, belongs to the large class of pre-columbian Indian or Mound Builder pipes of clay or carved stone, made in animal and grotesque patterns or as straight tubes, and illustrating

the origin of the now widespread habit of tobacco smoking by man. This class of pipes is easily distinguished from another class of small well burned clay pipes, often of Dutch make, and often found at Indian village sites, sold by Europeans (by about 1650) to the Indians, after the former had learned from the latter how to smoke tobacco and make pipes.



267

Indian Amulet. 267. Stones three or four inches long, carved into highly conventionalized forms of



231

animals, reptiles, or very frequently birds, though not noticed in native use by early travelers, are continually found in Indian mounds and at village sites and called amulets for want of a better name.

Indian Hoeing Corn. 231. Sparsely grown or still barren and forest encompassed areas, called by farmers "Indian fields" in Pennsylvania, and still existing in original timber land, probably show aboriginal "clear-



293

ings," where having destroyed trees by blazing, and hacked them down with stone axes after charring the trunks, the Indians planted corn. The mosaic shows an Indian woman digging around the growing maize plant with an unhafted stone hoe.

Arrowhead. 293. These stone points for the wooden shafts of the Indian's arrows, have been found in Pennsylvania almost everywhere, and constitute the chief relics of the stone age.

Indian Ceremonial Stone. 243.

Carved by Indians at immense pains by means of pecking, sand rubbing and polishing, and perforated with hollow reed drill and wet sand. A multitude of little stones, three or four inches long like this, found in ancient mounds and village sites, having been unnoticed and unexplained by early missionaries and travelers who might have observed them in use by the Indians, have been ignorantly called "ceremonial" stones by the modern archæologist.



243

Indian Paddling Canoe. 264.

With skillful twisting stroke of the wooden paddle, the Indian propels his light, keelless, nail and pegless, equi-ended boat, made of large strips of the wonderful bark of the paper birch tree, (*Betula papyrifera*), sewn upon a wooden frame with root fibre threads, and gummed together.

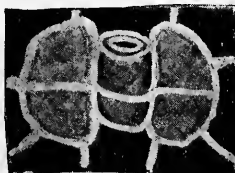


264

pierced, and worked by pecking, grinding and rubbing into two wing like projections, the mysterious stone here represented, belongs to a type of relics of the vanished Indian and Mound Builder, frequently found, but not having been explained by observation of the early travelers, called

The Banner Stone. 241.

Found in Indian village sites, graves and mounds, from three to six inches long, transversely

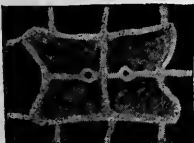


241

Banner Stone for want of a better name.

Indian Ceremonial Gorget. 274.

Thin tablet of shale or slate, generally perforated with two or more holes for suspension. Sometimes notched upon the edges but very rarely decorated.



274

Frequently found in Pennsylvania at the sites of Indian villages, or when at Indian graves, close to the breast of the skeleton. The Lenape Stone found in Bucks County, inscribed with a rude picture representing the sun, moon, stars and lightning, and a conflict between Indians and the extinct hairy mammoth (*Elephas primigenius*), elaborately carved on its reverse with symbolic figures, inadequately studied or ignored by archæologists, outvies in archæological interest all such stones previously found.



271

Left Outer Corridor.

Wolf. 271. (*Canis occidentalis*.) Hunting in winter packs, running down foxes and smaller animals, or destroying the larger disabled elk or moose, howling, burrowing, always hungry, tamed by savages, and part ancestor of the friendly dog, the American gray wolf, devourer of sick bison and bison calves and domestic cattle, has been more easily driven off and exterminated than his fierce cousin of northern Europe.



289

Australia, but the American Indian seems peculiar in having universally made these implements and mounted them by binding with rawhide thongs, handles of wyths, or doubled or perforated sticks, around and about the grooves worked upon the stone.

Indian Pipe. 276. The mosaic shows a remarkably worked black stone carved by Indians with much pains for use as a tobacco pipe. The specimen belongs to the large class of precolumbian Indian or Mound Builder pipes of clay or carved stone, made sometimes in animal and grotesque patterns, or as straight tubes, and illustrates the origin of the now widespread habit of tobacco smoking by man. This class of pipes is easily distinguished from another class of small well burned clay pipes, often of Dutch make, and often found at Indian village sites, sold by Europeans (by about 1650) to the Indians, after the former had learned from the latter how to smoke tobacco and make pipes.



276

Heckewaelder Preaching to the Indians. 270.



270

The Moravian missionary, minister of Christ's peace and brotherhood among Indians, venerable, noble, beloved, upholding a friendship for the red man equal to that proclaimed by Penn, but which long outlived the latter's transmutation into race hatred among the ruling colonists, here preaches to the Lenape, after a common fashion, standing upon a stump in the partly cleared woods.

Arrowhead. 275. The Indians sometimes pounded malleable native copper into arrowheads, but otherwise ignorant of metal working, they, like most primitive peoples, chipped flakable stones to suit their purpose. The gunflint makers

of the last century, until recently surviving at Brandon in Sussex in England, working the flint with iron hammers, illustrate in a coarse and clumsy manner, the high skill of the prehistoric blade chipper, which no modern imitator has been able to equal.



275

Indian Making Dugout Cance. 279. Having felled by charring and hacking its base, a tree, the Indian seated astride the log, cuts out with a grooved stone axe the charred areas of successive fires built upon the wood and restricted by the appli-

cation of water and clay, into the desired hollow boat.

Indian Drill.

294. The mosaic shows one of the small narrow acute angled triangles of jasper or other flakable stone, sharpened at the broad end and anciently used by the Indians unhafted as pocket knife, needle, chisel, punch and scraper.



294

Indian Tubular Tobacco Pipe. 290. Perforate a stone six to eight inches long at immense pains, by bow drilling it from both ends with a hollow reed helped by sand and water. Enlarge the hole at one end or both.

Rub round and polish the whole tube, and you produce as the Indian produced it, one of the earliest forms of tobacco pipes, through which as seen in prehistoric manuscripts of Yucatan, the masked Indian priest in certain ceremonies blew the smoke of odoriferous herbs to the four world quarters.

Indian Shooting with the Bow and Arrow. 280. A few primitive races of the world were probably ignorant of the bow as the great weapon of war and chase. The kneeling Indian propels a deadly point of chipped jasper (an arrowhead), lashed and glued to the end of a stick (the arrow), by the spring of a deer thong or gut drawn backward from a flexible stick

(the bow); thus using the greatest of all war and hunting weapons ever developed by primitive man, yet unknown to the Australians who used the boomerang instead.

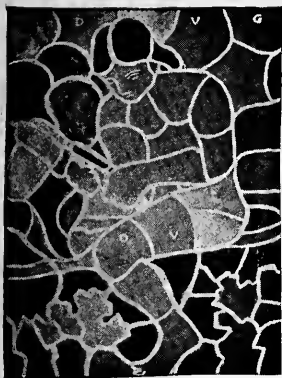
Grooved Indian

Axe. 285. The stone axes of prehistoric Europe were perforated for the insertion of handles. A few grooved hammers or axes of stone have been found in Italy and they occur in Australia, but the American Indian

seems peculiar in having universally

made these implements and mounted them by binding with rawhide thongs, handles of withes, or doubled or perforated sticks, around and about the grooves worked upon the stone.

Catalpa. 288. (*Catalpa catalpa*.) Native of the warmer forests of the Gulf States, transplanted from the South to the Pennsylvanian woods, the large-leaved, heavily white-flowered candle tree, or Indian bean, or catalpa as the



279



290

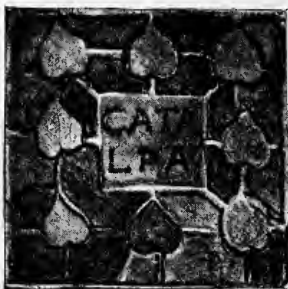


280



285

Left Outer Corridor.



288

did not indirectly learn the strange art, from the Indians' immemorial practice, the latter certainly through Nicot, Hawkins and Raleigh, taught it to Spain, France, England, Holland and Germany, and even to the conservative Mohammedan, who did not mention the practice in "The Thousand and One Nights."

Indian Ceremonial Stone.



286

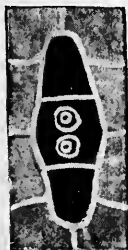
286. Carved by Indians at immense pains by means of pecking, sand rubbing and polishing, and perforated with hollow reed drill and wet sand. A multitude of little stones three or four inches long like this, found in ancient mounds and village sites, having been unnoticed and unexplained by early missionaries and travelers who might have observed them in use by Indians, have been

ignorantly called ceremonial stones by the modern archæologist.

Redbud. 288. (*Cercis canadensis*.) Where a wild vanguard of southern redbud or Judas trees grow in the Susquehanna woods, stand beneath the yet leafless boughs gleaming in crimson blossoms, and while the bees hum and the spring zephyr brings memories of the far away southern forests, forget even the snowy shad bush and the white vernal glory of the matchless dogwood.

Indian Ceremonial Stone.

272. Thin tablet of shale or slate, generally perforated with two or more holes for suspension, sometimes notched upon the edges, but very rarely decorated. Frequently found in Pennsylvania at



272

the sites of Indian villages, or when at Indian graves, close to the breast of the skeleton. The Lenape stone found in Bucks County, inscribed with a rude picture representing the sun, moon, stars, and lightning, and a conflict between Indians and the extinct hairy mammoth (*Elephas primigenius*), and elaborately carved on its reverse side with symbolic figures, in-

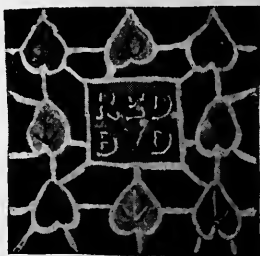
Cherokees called it, has escaped from cultivation in the North, to scatter its winged seeds and shine with its white and purple tinted flowers in shady woods and along the banks of streams.

Indian Smoking Tobacco.

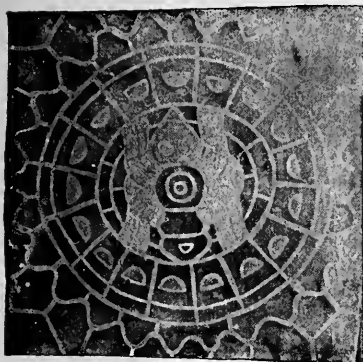
281. (*Nicotiana tabacum*.) In small doses and always combined with a large proportion of aromatic leaves such as those of the bearberry, or the fine dried and powdered inner bark of the osier cornel (*Cornus stolonifera*), or other herbs, but never pure, the Indian smoked the dried leaves of tobacco. (*Nicotiana tabacum*.) If the Chinese



281



288



adequately studied or ignored by archæologists, outvies in-archæological interest all such stones previously found.

The Spider. 278. Type of nature's mystic power, first instructor of man in weaving, aerial rope-maker, sinister, indomitable, potent, transmitter of the primeval fire of the Cherokee across the "World Water" on his gossamer web, the spider encircled by the lines of his masterful skein is here shown as carved by an Indian upon a brooch of shell.

278

Indians by Whites. dead, and his friendship for the Indian transmuted into a tide of race hatred which the pious Moravian strives in vain to stem. Then in 1763 a Scotch-Irish band of borderers known as the Paxton Boys, shocked the colony by murdering at Conestoga and in Lancaster Jail several defenseless Conestoga Indians, Christianized by the Moravians.

Massacre of Friendly 298. William Penn is long since



298

Triangular Indian Arrowhead. 283.

Out of about one hundred typical forms of chipped stone arrowheads, produced by the aboriginal inhabitants of the new world from Behring Straits to Patagonia, one of the conspicuous shapes is that of the acute angled triangle, frequently found in eastern Pennsylvania and rare if not unknown to prehistoric Europe.



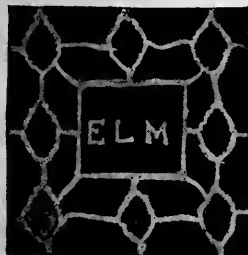
283

Arrowhead. 295. The Indians sometimes pounded malleable native copper into arrowheads, but otherwise ignorant of metal working, they like most primitive peoples, chipped flakable stones to suit their purpose.



295

The Elm. 291. (*Ulmus americana.*) Less conspicuous and beloved for village shade than in New England, the American white or water elm of Pennsylvania, often vase shaped in the outline of its plumed



291

branches, loves water courses and escapes the barbarism of Pennsylvania German village tree-topping, in moist woods. The most noted tree of its kind in Pennsylvania, venerated as shading the celebrated treaty of Penn with the Indians at Kensington in 1682, and protected from firewood hunters by the British General Simcoe's sentry in the Revolution, blew down in 1810 at an age of 283 years.

Indian Pipe. 282. Having invented the process of smoking crumbled tobacco



282

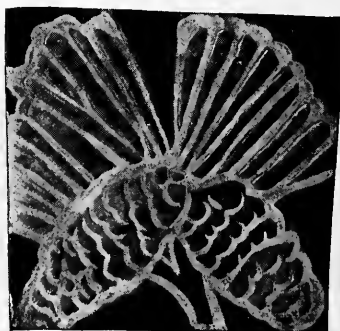
Indian Celt. 284. Though the grooved stone axe of the ancient Americans is generally unknown in prehistoric Europe, the celt, a wedge-shaped stone implement six inches or more long, formed by pecking and polishing, gummed and tied transversely or longitudinally with withe or raw hide into its handle of wood, or held loose in the human hand, was common to both hemispheres, and served the savage of ancient America or Europe as knife, scraper, chisel, wedge, hatchet, gouge, crusher and grinder.

Arrowhead. 296. The ancient Egyptians and Scandinavians and the Mexicans, possessing fine grained flint or volcanic glass called obsidian,



296

Pine Cones. 292. Represented by about 39 related species in the United States, shallow rooted, evergreen, highly valued for its white wood



292

boulder known as Big Indian Rock, in mid-Susquehanna at Safe Harbor, cut near a group of thunderbirds, symbolic eagles, animals,

leaves, always largely mixed with osier cornel inner bark or bearberry leaves or other herbs, the Indian made for the purpose pipes of clay and baked them in bonfires, or pipes carved from the soapstone quarried along the Delaware or Potomac, or cut from the celebrated red pipe-stone or catlinite imported from the ancient Indian quarry in Missouri.



284

were probably more skillful in the art of stone blade chipping than the northern Indians of eastern North America, who were seen to produce their stone blades in various ways: by percussion, by flaking with pebble hammers, by leverage, or by direct pressure with deer antlers or bone points.

Spearhead. 297. Many large leaf-shaped stone blades were mounted on short wooden handles as knives, and many were used unmounted; others again, as the illustrations of early Spanish explorers show, were fastened upon the ends of poles and used as spears by Indians

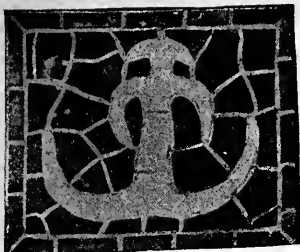


297

distilled for turpentine and pitch, darkening the Rocky Mountain slopes or sandy seacoast, whispering in varied æolian tones, and as the white pine (*Pinus strobus*) rivalling in beauty the cedar of Lebanon or the deodar of India, the pine tree rapidly destroyed by American axe and movable saw, awaits its last chance of preservation as a tree domesticated for ornament.

Indian Rock Picture. 340. Man, bird or demon, made probably by Delaware, Iroquois or Susquehannock Indians, by pecking with sharp hard stones upon the face of a large water-worn

the face of a large water-worn



340

of the great meadowless forests?

Indian Brooch Inscribed With a Cross Symbol. 322. Whether derived from thoughts of the four points of direction, from primitive exorcisms, from the worship of reproductive forces or otherwise, the cross used as a symbolic decorative form far antedating the discovery of America by Columbus, is sometimes shown in the handiwork of the Indian. Here the mosaic reproduces the native



322

cat springs from ambush or overhead bough upon his larger prey. This relative of the domestic cat, lion, tiger, leopard, and fossil American sabre-toothed smilodon, has been driven by his old enemy the Pennsylvanian farmer to the few remaining forest fastnesses of the Alleghenies.

The River of Fire.

273. The iridescent scum floating on the surface of Oil Creek, long afterwards precious as petroleum, then soaked up by the savage as a lotion, is here set on fire by Indians in the seventeenth century, according to an old account, in honor of a visit of Canadian Jesuit priests, who stand upon the bank admiring the spectacle.

bird tracks and a human head, on the east face of the rock.

Quail. 319. (*Ortyx virginianus*.) Prolific, ground-nesting, non-migratory, gathering in winter coveys, preserved by game laws, rising for the sportsman with explosive whirring of wings, cheering summer with his lively "bobwhite" note how did the now meadow-loving quail subsist in the earlier days

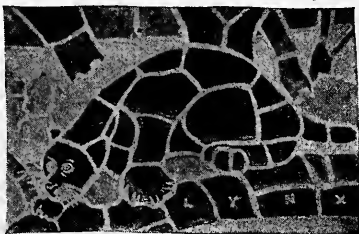


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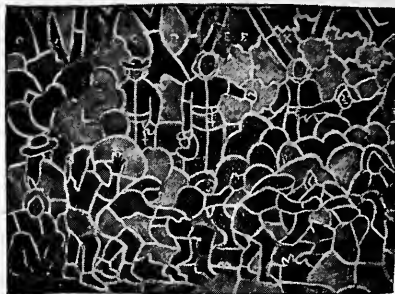
design scratched upon a shell gorget.

Wild Cat. 321.

(*Lynx rufus*.) Yellowish brown, short tailed, with hair tufts on ears, spotted with dark brown or black, scaring its prey with a wild scream, sleeping in hollow trees, caves or rock shelters, destroying young birds in the nest, mincing catnip, wallowing in strong scented herbs, stalking rabbits and grouse in the twilight of dawn or eve, unearthing mice or watching at squirrel holes, the wild



321



273

Red Fox. 336. (*Vulpes fulvus*.)

Sly, stealthy, slit-eyed, night hunting, cleanly, devourer of birds, chickens, mice, moles, squirrels, fish, beetles, or fruit, less swift than his European cousin, whether as the red fox of the north or the grey fox of the south, the celebrated animal, either burrowing in the earth or living in rocks and hollow trees, is respected and hated by man. Driven into nets or dug out for extermination until about 1650 in Britain, the fox began to allure the red-coated hunter and his hounds by the end of the 17th century. Thenceforward, partially protected as a target for sport, glorified by his destroyer in the fun of pictures, horns, hounds, redcoats, Irish reels, club rooms and balls,

he becomes the type of the national sport of England transferred to America.



336

who has not exterminated him in Pennsylvania.

Bullfrog. 343. (*Rana catesbiana*.)

Prolific, laying thousands of eggs in warm water, which pass from tadpole to frog in early summer days, making summer nights echo with his deep bel-
lowing, feeding upon insects, snails and reptiles, the bullfrog has rather in-
creased than diminished in numbers

Indian Quarrying

Jasper. 323. With crow bar made of a young tree burned down, charred at the end, and hacked to a point with a stone axe, the Indian quarryman pries a mass of jasper, cracked by fire, from the native ledge, as at Durham in Bucks County, at Macungie, and at Vera Cruz in Lehigh County with its 250 prehistoric diggings, where he thus worked at the bottom of pits eighteen feet deep.



323

The Raccoon. 337. (*Procyon lotor*.) Cousin to the bear, hibernating in winter, feeding on shellfish, mussels, birds, turtle eggs, insects, nuts, fruits, frogs and corn, soaking its food in water, this gray-brown animal with white-striped tail, dwelling in trees, hunting at night, and a good swimmer, is easily

tamable as a

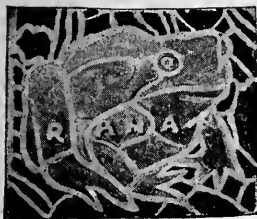
pet by man,



337

since the destruction of the great forest.

Indian Symbol of the Human Head. 339. As a probable representation of the head of a man with protruding scalp lock, the mosaic shows one of the many figures, here in outline but generally in full intaglio, pecked by Indians with hard sharp stones on the east face of Big Indian Rock in the Susquehanna rapids at Safe Harbor.



343

The Muskrat. 350. (*Fiber zibethicus*.) The amphibious prolific muskrat, inhabiting lakes and streams, invading cultivated lands, threatening dams and canals, destroying the water-lily and lotus where they had flourished before, defies man's effort to dig him out and exterminate him, and increases rather than disappears before the same civilization which, in exterminating the blood-letting mink which had filled the muskrats' galleries with blood in the past, has withdrawn from the life struggle the muskrat's worst enemy.



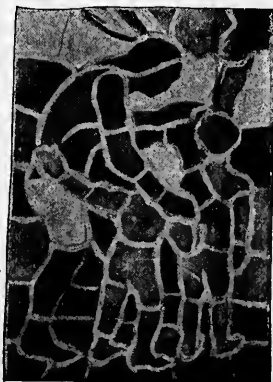
350

Indian Drawing of the Spider. 330. Aerial rope-maker and weaver, poisonous, indomitable, potent, the spider has commanded the veneration of the savage. Here the mosaic reproduces a drawing by the Indian who, conventionalizing the outline of the insect with great skill, scratches it upon the concave face of a shell, used as a breast plate or gorget.



330

White Children Rescued by Indians. 335. For a time Penn's roseate dream of loving brotherhood between European and savage, typified



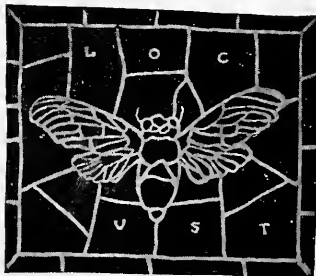
335

by the famous treaty of the great elm, seemed realized. Not yet overreached by the land purchase known as the Indian Walk, still uninjured, unangered, unsuspecting, the red men with no wrongs to revenge, mingled kindly with the foreigner. Early in the eighteenth century, two little white children named



325

liam Penn by the Lenni Lenape Indians, at the famous treaty under the elm tree at Shackamaxon (the Kensington north suburb of Philadelphia), in 1682. Several thousand multi-colored fragments of unio or clam shell, about one-quarter inch in diameter and one-half inch long, were longitudinally pierced by Indians at great pains with stone



347

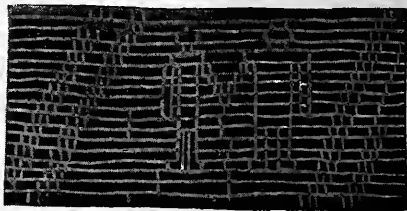
familiar to the country boy as the "knee-deep" of frogs in early spring, hatched from twig deposited eggs to crawl downwards antlike into the ground, buried for seventeen years or less as an eyeless grub, the misnamed insect is related to many varieties of cicada (not locust) in the old and new world, but neither to the grasshopperlike insect of the biblical Egyptian plague, the pest of modern north Africa, nor to the food eaten by St. John the Baptist.

Rattlesnake. 338. (*Crotalus horridus*.) Less poisonous than the cobra of India, or the fer de lance of Martinique, devourer of small rodents, the deadly rattlesnake where he survives in the Appalachians from New Hampshire to Florida, is justly dreaded by man.

Chapman, lost in the forest near Wrightstown, Bucks County, were kindly rescued by Indians and restored to their distressed parents.

Primitive Tobacco Smoking. 325. Not probably until in ceremonies and exorcisms, the smoke of odoriferous herbs had thus been blown by Indian priests to the four world quarters through tubes of stone or clay, would soporific tobacco be preferred to other plants, or as *kinnikinnick*, when mixed with bearberry leaves or osier cornel under bark, be smoked for pleasure by the Indian inventor of smoking.

Treaty Wampum Belt. 327. Great belt of purple black and white shell-beads, representing an Indian shaking hands with a hatted European, reasonably believed to have been given to Wil-

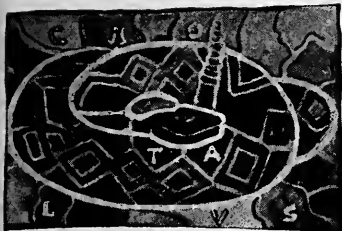


327

or bone drills. More precious than gold to the red man as "wampum," "peg," "slawant," "beak," or "ronoak," sometimes passing as money on strings, or used as seals to solemnize the acts of men, or at animal sacrifices, and as symbolic of war (where white meant faith, black meant battle, and red meant blood), in the form of beads, they were strung on vegetable fibre threads interwoven with animal thongs so as to form a belt.

Locust. 347. (*Cicada septemdecim*.) With summer song as fa-

(338 Continued)



338

About four feet long, sluggish, coiling, rattling, reluctantly striking, the brown or blackish yellow diaper-striped snake was avoided and venerated by Indians and white men, and but very rarely conciliated by snake loving mountaineers who dare to pick up the fanged reptile in their hands.

Wild Turkey. 320.
(*Meleagris gallopavo.*) While the colonist and farmer readily



320

Rattlesnake as Pictured by Indians. 324. The head with open mouth of the fearful rattlesnake (*Crotalus horridus*), surrounded by a coil of the scaly body ending in



324

its rattle, highly conventionalized after the manner of other designs found in Indian mounds, and upon wooden masks excavated in Florida. The mosaic here reproduces a carving deeply scratched upon a breast plate of shell by the mound building Indians.

Indian Rock Carving.

334. One of nearly 200 other animal figures, probably a bear, pecked with a sharp stone by Indians against the side of Little Indian Rock in the Susquehanna rapids at Safe Harbor.



334



328

Tortoise. 328. Celebrated in white man's story and legend, venerated as an emblem of wisdom by the Indian, the sluggish unwieldy reptile, heavily armored above and below by carapace and plastron, resists without much effort the attack of many



318

enemies; sometimes defying the tearing of the eagle's beak and talons as when, if legend be true, a bird of prey high in the air, killed the Greek poet Aeschylus by dropping a tortoise upon his head.

The Blue Jay. 318. (*Cyanura cristata*.) The trumpet cry of the blue jay startles the quiet woods while his wings flash azure through the leaf shadows, as upon his

omnivorous search for food he seizes the autumnal chestnut, or in spring devours young birds and steals bird eggs, no less remorselessly than the ornithologist multiplies his skins for the cabinet, or the lady distorts his blue stuffed form, glass eyed, upon her hat.

The Hawk or Eagle. 329. Represented by many species, caricatured by the bird stuffer, "taken" and retaken by the ornithologist, nailed to the barnside by the farmer who hates him, the hawk or his eagle brother was yet admiringly adopted as a national emblem by aristocrat, king and democrat, stamped upon the "almighty dollar," and glorified in stone carvings by the savage Indian as the genius of thunder. Devourer of birds, frogs, rodents and reptiles, and of the



329

flesh foods appropriated by man, soaring above clouds in mastery of the gift of flight, darting like lightning upon his prey, the wonderful bird, less wary than the crow, proclaims by his existence a victory hard won in a never ending struggle with his human enemy.



326

Indian Rock Carving.

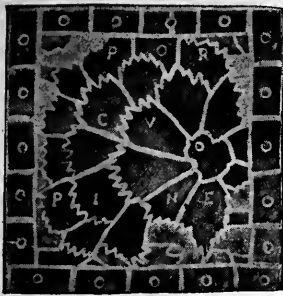
299. One of the animal figures, probably a panther, pecked by Indians by pounding with a sharp stone against the smooth, freshet-worn, eastern side of a large boulder known as Big Indian Rock, in the middle of the rapids of the Susquehanna at Safe Harbor.

Porcupine. 349. (*Erethizon dorsatus*.) The largest carnivore hardly

Indian Basket Maker. 326. Only less important to primitive man than the plastic clay utensil, is the basket as here plaited by an Indian woman in one of many masterful plaits. Sometimes watertight, decorated with conventionalized and artistically balanced patterns, the Indian basket was usually superior in make and decoration to the wares of civilized peoples.



299



349

Indian Rock Picture. 344.

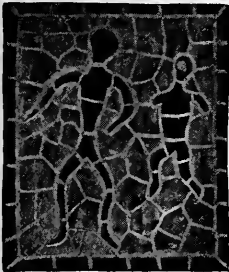
Thunderbird with Forked Tail. One of about twenty figures of men, animals and their tracks, reptiles, birds and demonic symbols, pecked with stones by Indians upon the sides of Big Indian Rock, near the much more profusely inscribed fellow boulder, Little Indian Rock, in mid-Susquehanna at Safe Harbor. The grinding of driftwood in freshets slowly erases these wierd and sinister symbols of a vanished race, placed in the midst of roaring and dangerous rapids.



344

Indian Rock Carvings. 333.

Two figures representing the human form, carved by Indians, together with a large



333

number of pictures of animals, birds and their tracks, and reptiles, upon the faces of two large boulders known as Big and Little Indian Rocks, in the middle of the rapids of the Susquehanna at Safe Harbor.

The Crow. 237. (*Corvus americanus*.) Not from his striking color and figure, his anatomy or his habits, according to the bird book, might the non-migrating, incomparably sagacious, grain-eating crow claim distinction, but rather from the fact that he stands supreme among birds as victorious in an eternal

life struggle against the human maxim, man-condemned but man-practiced, that might makes right. Marshalled in destructive flocks, guided, guarded and generalled, scouting, watching, venturing, despising the scare-crow, evading trap and poison, guaging gun range as it extends, the ever-present crow, defying the northern winter, despoils the human



237

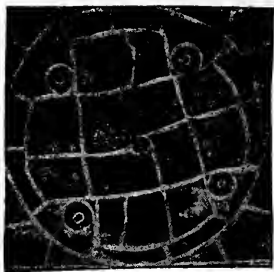
spoiler from the exact standpoint of the latter.

The Weasel. 345.

(*Putorius vulgaris*.) Sometimes turning all white in winter, brown-backed, keen-



345



331

scented, night-hunting, wholesale destroyer and blood-sucker of rats, mice, moles, frogs, birds and chickens.

Indian Brooch Inscribed with a Cross Symbol. 331.

Here the mosaic reproduces a native design scratched upon a gorget or breast plate of mussel shell. Whether it is derived from the four points of direction, from primitive demon worship, or from ceremonies based upon the blowing of the winds, the handiwork of the Indian, produced at a time antedating the discovery of America by Columbus, some-

times to the great surprise of early travelers, showed as in the case illustrated, the pattern of the Christian Cross.

Rattlesnake as Pictured by Indians. 332. The

head with open mouth of the fearful rattlesnake (*Crotalus horridus*), surrounded by a coil of the scaly body ending in its rattle, highly conventionalized after the manner of other designs found in Indian mounds, and upon wooden masks excavated in Florida. The mosaic here reproduces a carving deeply scratched upon a breast plate of shell by the mound building Indians.



332

Oak Leaves. 1. Long lived, colossal, durable, highly valued for wood, bark and sawdust, represented by a multitude of varieties, as



1

red, black, swamp, willow, chestnut and pin oak, or as the familiar ashen-barked white oak frequently marking the land boundaries in old deeds, the oak though unknown in Australia and tropical Africa, ennobles the forests of Europe, Asia and America in the north temperate zone.

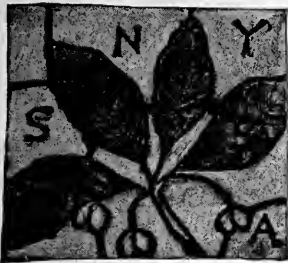
The Log House. 4.

Build a rectangle of heavy logs

as in the mosaic, notched at the ends to fit closely, with wattled chimney smeared with clay. Saw out doors and windows and roof with bark or shingles hand-split with frow and club. Caulk with grass and clay and you have the original house of the settler, copied from ancient forest houses in Europe. Still built in wild regions of the Appalachians and the west, and surviving eastward as landmarks recalling a vanished human past as forcibly as do the ruined castles of Europe.



4



3

stood in the old orchard or barn as "bee-gum" (beehive) or "salt gun" (salt box) for cattle feed.

The Axe and Its Ancestor. 2. The American pioneer having brought with him from England, France or Germany, the long bitted (bladed) short polled axe of his ancestors (to the left in the mosaic), soon put the previously little used instrument to immense and unheard of use in forest felling, and after 1730 modified the wabbling tool into a more square, compact, and effective wedge, by weighting and enlarging the poll or driving part, and shortening and lightening the cutting wedge or blade. Thus the country blacksmith after 1730 produced a "pitching" (tree felling) axe indigenous to the United States, (to the right in the mosaic), and unknown except by American exportation, in other countries where as against the overbalancing American poll, the bits or blades of old world axes always outweigh their polls.



2

Felling the Forest. 5. Neither steam car, trolley, automobile, coal or iron mine oil or gas well, probably worked the terrestrial change suddenly produced when the white colonist with resounding blows of the long-bitted axes of his ancestors, first dissipated the immemorial tree shade of the great forest. The ancient red American retired or perished. As houses, cities and villages rose, the chimney swallow nested in its first chimney, the purple martin in its first man-made tow-house, and the wren in a man-prepared calabash. The quail and lark left the forest for open fields of man-planted grass, and the crow first robbed the farmer's corn. The prolific muskrat liberated by farmer's trap from his mink enemy overpopulated the banks of mill ponds. The housefly first buzzed in the log horse-stable, and the European house rat overran the region, while the watercress of the old world invaded springs newly sunlit, and a hundred new European flowers sprang up by freshly cleared roads.



5



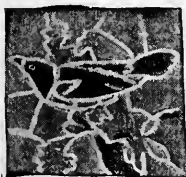
8

celebrated shellbark tree famed for its elastic wood, furnished to the pioneer the axe handles, first straight, later curved, which gave spring to the deadly stroke of his forest-destroying axe.

Red-Eyed Vireo. 7. (*Vireo olivaceus*.) One of the tireless little songsters, feeding on insects, staining his white throat with pokeberries, blackberries and mulberries, and devoted foster parent to the foundling cowbird.



7



6

Orchard Oriole. 6. (*Icterus spurius*.)

Where the red earthen pots dry on fence palings, where the buttonwood tree overhangs the spring, or where by the old smoke house the west wind scatters apple blossoms, the orchard oriole richly feathered in orange and black hangs his swinging nest; and the question arises how and where did he live and love when orchards did not exist, when the vast sun darkening forest shadow was everywhere, and when no bird's eye had yet seen the life of the farm.

Pioneer Rifleman. 9. A marksman of deadly aim from continual shooting at Indians and animals, the Pennsylvanian pioneer, armed at first with a transatlantic gun, barreled with spiral bore to make the flying leaden bullet rotate, (Edward Marshall the Indian walker's rifle 1737-50 made at Rothenburg, Germany) began making his own "Lancaster" and "Kentucky" rifles at Reading, Lancaster, and elsewhere, by the end of the 18th century. Though subject to speedy annihilation in a bayonet charge, and denied a place in



9

European armies by Napoleon, organized bands of these deadly, slow-firing, Indian fighters, with raccoon caps, buckskin shirts, and fringed leggings, did great service in frontier battles and at New Orleans, in 1815, where the riflemen lying behind cotton bales and supplied by boys with continually reloaded extra rifles, destroyed at a distance the British Army, killed its general, and won the battle in a few minutes.

Grey Squirrel. 12. (*Sciurus carolinensis*.) Having survived the

(12 Continued)



12

low or deep, or skipping it, while escaping upset with easy plow jumps, where the coulter of a normal plow might lock under roots.

Beaver. 10. (*Castor fiber*.) While the prolific subterranean muskrat delivered from his terrible enemy the mink, multiplies in the midst of civilization, the sensitive beaver instantly shrinks from contact with the human invader who has almost exterminated him in Pennsylvania. The story of his matchless skill becomes a half-forgotten school-



10

Pennsylvanian colonist who finding no honeybees in pre-columbian America, brought with him the honeybee from Europe. These yellow domes gleaming under the apple trees of the Pennsylvanian farm, or as pictured upon the State shield of Utah, seen in use in Bucks county in 1897, and for sale at Chester, England, in 1900, necessitated through lack of extra honey compartment the cruel drugging, often killing of the bees with sulphur smoke, to get the honey.

Reaping With the Sickle.

13. Lean forward and seizing a large bunch of wheat or rye with the left hand, cut the stalks near the ground by drawing the keen serrated narrow sickle blade across them from left to right. Then as the mosaic shows, you reap as your ancestors did from Egyptian times until about 1820, when at the advent of the European grain cradle, or the Hainault scythe (dispensing with stalk grasping), and

enmity of the farmer who shoots and eats the squirrel or imprisons him in a tin cage and treadmill, the animal finds peace in the city park and town grove, where city children tame and feed him.

Shovel Plow. 11. After a very ancient model minus plowshare and mould board, surviving from Roman times and still used for plowing out potatoes. The settler scratched newly cleared land with wha-might be called the blade of a shovel fastened vertically to a plow frame (the shovel plow), thus tearing the fibrous tangle, shall-



11

boy's fable, and common knowledge no longer testifies to the fact that the animal resembling an enormous heavy-tailed muskrat, gnaws down trees so as to lock them across streams, thereby forming driftwood dams with sufficient water for his island village.

Bee-Hive. 16. A small dome-shaped straw basket about eighteen inches high, made of spiral rye straw strands, string-bound and perforated midway with wooden skewers, upon which the bees built their comb, was constructed, together with the more primitive hives of hollow logs, as a bee house, by the



16

(13 Continued)



13

finally the reaping machine, the greatest craft of husbandry changed suddenly and forever.

Song Sparrow. 14.

(*Melospiza melodia.*) Below the ripples where the mill stream lingers by bridge or eddy, and where the jetty water beetles dart upon the odoriferous pool, the song sparrow, seizing a branch of hazel or the topmost fresh-leaved spray of willow, outvieing all his kindred, stirs the heart with his sweetest keynote of spring.

The Dutch Scythe. 17. Holding the instrument by its much twisted handle, you stoop little as you mow with the ancestral scythe of Germany, now 1908 superseded in Pennsylvania by the Anglo-American hard steel so-called English scythe. To sharpen the Dutch scythe, hammer (dengle) thin with the dengle hammer, its broad malleable blade held close with the left hand upon a wrought iron wedge-shaped little anvil (ambus) driven into a log or stump. Then whet the scythe with a sandstone whetstone soaked in vinegar, carried in a cow's horn



14



17

hooked at your leathern belt. Thus came of old the familiar evening noise of tinkling hammers (dengeln), where the breeze scented with new-mown hay drew through the slatted corncrib, where by hanging saw and pig's grease, the axe wedged the log, and the worn grindstone and wood-horse rested on the fragrant chip floor of the ancient wood-house.

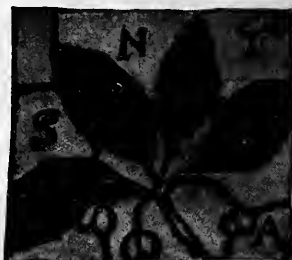
Sour Gum. 20. (*Nyssa sylvatica.*)

The mosaic shows the leaves of the sour gum tree, familiar in northern and southern states as the pepperidge and tupelo. Lofty, tough, fine-leaved, flashing scarlet in autumn, heavily fruited with blue

berries once beloved of the now vanished wild pigeon and other birds, often the hollow-trunked harbor of "coon" and "possum," the gum tree furnished cylindrical hollow trunk sections which sometimes lined the spring to make the water "tastesweet" or stood in the old orchard or barn as "bee-gum" (bee-hive) or "salt gum" (salt box) for cattle feed.



19

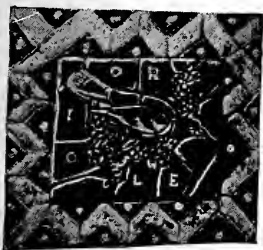


20

Cardinal Bird. 19. (*Cardinalis cardinalis.*) Crested, vivid scarlet, heavy-billed, active,

nonmigratory, named from the scarlet robe of the Catholic high priest, most conspicuous of songsters, lurking in summer in chosen wet bramble thickets, or flashing hope and warmth into the drab woods of winter, the cardinal bird, rich in song, is often seen imprisoned for life in a small cage.

Baltimore Oriole. 18. (*Icterus galbula.*) Gleaming black and orange through the summer boughs of hickory, apple, oak and maple, named indirectly after the Irish town Baltimore through the heraldic colors of Lord Baltimore founder of Maryland, destroyer of insects, brilliant musician, migrating in winter to Mexico, the magnificent "hanging" bird in nest building gladly seizes upon once unknown strings, rags and lint of the modern white American, minus which the oriole must have built his hanging pouch-like nest of vegetable fibre and twigs, in the shadows of the great forest, with greater trouble than now where the swaying maple boughs welcome him by the farm or spring house.



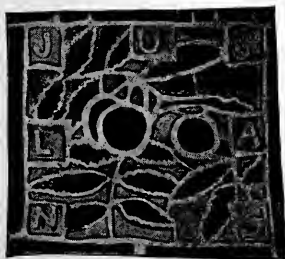
18

Sharpening the Dutch Scythe. 21. The broad malleable blade of the Dutch scythe "Dengle sense" of ancient German pattern, was hammered sharp upon an iron wedge anvil driven into a stump. The farmer then whetted it with a vinegar-soaked sandstone hone carried in a cow's horn hooked to his belt. On the other hand the hard steel English scythe, which now supersedes the German instrument, is never hammered and only whetted.



21

Shellbark Hickory. 15. (*Hicoria ovata.*) Among the pignut, mocker, and bitternut family of hickories, the lofty shellbark with its delicate nuts prized and stored by Indians and white men, with its immense combustible, long burning bark scales, furnished the fockle or fishing torch



15

which gave spring to the deadly stroke of his forest destroying axe.

Scarlet Tanager. 23. (*Piranga erythromelas.*) One man in a thousand, carefully listening while the robins are singing, recognizes the mellow reedlike notes of the tanager in the high oak grove. The kindlier twentieth century student or egg-hunting boy, looking skyward where the young leaves

of the rural fisherman, and the similar night light of the cave exploring Indian who has scattered the floor of Wyandotte cave in Indiana with the burnt ends of his hickory bark torches. The celebrated shellbark tree, famed for its elastic wood, furnished to the pioneer the axe handles, first straight, later curved,



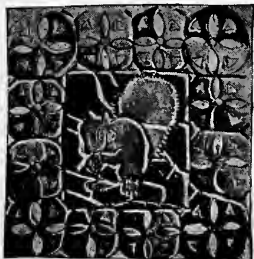
23

tremble in the zephyrs of spring, sees daylight through the bird's loosely woven nest holding blue eggs spotted with purple. But every eye must see, every voice exclaim, when the magnificent tanager, in intense scarlet, black-winged and black-tailed, flashes his tropical splendor against the green world of early summer.



22

much new land as a man could go over in a day and a half, Edward Marshall, in 1737, starting at a chestnut tree in Wrightstown, Bucks county, walked or ran, by way of a previously blazed path, to the neighborhood of Mauch Chunk, including by a surveyor's ruse, (to the disgust of the Indians), an enormous unexpected tract for the buyers, in the required time. The Indians refusing to vacate the land and being driven out by intrigue, revenged themselves afterwards upon Marshall and his family and upon Pennsylvania thirty-nine years later at the massacre of Wyoming.



28

catbird, haunting blackberry bushes, thickets and shrubbery, eating raspberries, strawberries, blackberries, mulberries, cherries, grapes, spice and pokeberries, nesting with four greenish-blue unspotted eggs in a heavy twig nest, is familiar near the Pennsylvanian farmhouse and orchard from April to November. One hundred persons know well the mewing catlike note of the bird to one who recognizes his full enthusi-

Opossum. 22. (*Didelphis virginiana*.) Sluggish, sleepy, helpless, death-feigning, fruit, insect, and chicken-eating, hunted and eaten with delight by the American, slave and free, continually caught and killed by the farmer, the celebrated, prolific, American marsupial, ghastly in hair and skin, unknown in Europe, and related to the Australian kangaroo, continuing to rear about thirty-six young per year, in three litters, in its extraordinary breast pouch, survives its human enemy, and still harbors unsuspected close to the farmer's henroost and haystack or in his hollow apple tree.

Indian Walk. 25. So as 'o buy from the Delaware Indians, by agreement with Richard and Thomas Penn, as



25

Grey Squirrel. 28. (*Sciurus carolinensis*.) Having survived the enmity of the farmer, who shoots and eats the squirrel, or imprisons him in a tin cage and treadmill, the animal finds peace in the city park and town grove, where city children tame and feed him.

Catbird. 27. (*Galeoscoptes carolinensis*.) The slate-colored, black-poll-



27



astic May song varied with imitations of other bird notes.

Swamp Blackbird. 26. (*Agelaius phoeniceus*.) Lovable and never to be forgotten, the dramatic swamp blackbird, with jet-black uniform shoulder strapped in fiery scarlet, rivals the gay butterfly in the sunbeams of swampy meadows, as by bulrush, wild rose and calanhus, clutching the reed stalk, he sounds his mellow love call to the summer wind.

26

Blowing the Dinner Horn. 29.

while the steam of boiling pot and frying pan rises from the kitchen fire, stand without the door, and blow by lip vibration, a straight mouthpieced tin horn about five feet long. The far reaching sound calls the farmer to dinner from the fields. Disused in Eastern Pennsylvania about 1840. Its older rival the conch shell (*Strombus gigas*) still (1908) blown to open lock by canal boatmen on the Delaware and Leligh Canal, and was blown to call to dinner in Buckingham, Bucks county, in 1897. Like the two former horns, the cow's horn, still sold (1907) in Charleston, South Carolina, for foxhunting, was also sounded by vibration of the lips.



29



32

Shellbark Hickory. 32. (*Hicoria ovata*.) Among the pignut, mocker, and bitter nut family of hickories, the lofty shellbark, with its delicate nuts prized and stored by Indians and white men, with its immense, combustible, long-burning bark scales, furnished the fockle or fishing torch of the rural fisherman, and the similar night light of the cave-exploring Indian (who has scattered the floor of Wyandotte cave in Indiana with the burnt ends of his hickory bark torches). The celebrated

shellbark tree, famed for its elastic wood, furnished to the pioneer the axe handles, first straight, later curved, which gave spring to the deadly stroke of his forest destroying axe.

Sour Gum. 30. (*Nyssa sylvatica*.) The mosaic shows the

leaves of the sour gum tree familiar in northern and southern states as the pepperidge and tupelo. Lofty, tough, fine-leaved, flashing scarlet in autumn, heavily fruited with blue berries once beloved of the now vanished wild pigeon and other birds, often the hollow-trunked harbor of "coon" and "possum," the gum tree furnished cylindrical hollow trunk sections which often lined the spring to make the water "taste sweet," or stood in the old orchard or barn as "bee-gum" (beehive) or "salt gum" (salt box) for cattle feed.



30



31

mill, namely an ancient hand mill in which a stone disk, perforated in its centre for the insertion of grain, and pivoted upon a larger rimmed disk beneath it, was made to revolve on the latter by a handle inserted near the circumference. As the primeval food-producing flour mill of Christendom, the quern survives in remote parts of Europe, and as a paint grinder (1897) among Pennsylvania German potters. Enlarged querns ground by wind or water, dating from remote European antiquity, formed the flour and grist mills of Eastern Pennsylvania until, upon the introduction about 1890 of the Austrian method of



36

Grey Squirrel. 35. (*Sciurus carolinensis*.) Having survived the enmity of the farmer who shoots and eats the squirrel or imprisons him in a tin cage and tread-mill, the animal finds peace in the city park and town grove, where city children tame and feed him.

Robin. 34. (*Merula migratoria*.) A few boys in the year 1908 begin to feel that when on the fairest morn of May, the redbreast perched among apple blossoms, wafts his love song upon the spring breeze, the sight and sound are worth all the cherries the bird may afterwards eat. But an older human generation had to be influenced to cease robin killing by opening the insect-filled stomach of the

Red-Headed Woodpecker.

31. (*Melanerpes erythrocephalus*.) You must search among the painted birds of the tropics for a rival to this magnificent insect hunter, who startles the silent woods with sudden resonant drumming upon dead tree limbs, or darting in red black and white through summer leafage, protests in his thrilling life, against the farmer who would shoot him because he eats cherries, the untaught boy who destroys him for fun, or the woman who wears his distorted skin or wings upon her hat.

Gristmill. 33. Grain-grinding by random blows or rubs of stone upon stone or wood, was succeeded by the quern



33

squeezing and crushing the grains, between various sized rollers equipped with sieves, grain came to be ground in cities and the roadside mill yielded to the factory.

The Red-Headed Woodpecker. 36. (*Melanerpes erythrocephalus*.) The sight of the brilliant bird with scarlet head, white breast and wings, and black body, gamboling upon the old "worm fence," drumming upon the dead tree top, or startling the woods with cheerful trumpet, might well recompense advancing humanity for all the corn and apples that the bird may eat between his insect feasts.



35

(34 Continued)



34

songster to reassure that of the man. Robins eat insects and insects eat fruit, therefore robins help man to eat more fruit.

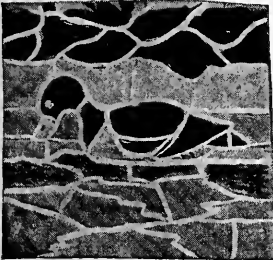
Spinning Flax. 37. The flax fibre after being cleaned and dusted from the stalk, *broken and scutched*, and scratched into strings, *hetteled*, is wound into a lump upon a forked stick, the *distaff*, from which the woman draws and forms it with her right hand, feeding it with her left fingers, upon the whirling *spindle* which further twists and spools it into threads



37

coarse or fine, for the subsequent home weaving of shirts, towels, under and outer clothing and household linen. Slowly developed in Europe from an Asiatic original by the 17th century, brought thence by colonists to America, and discontinued about 1820 to '40, this once all important, omnipresent footrun machine, antedating the factory, and announcing woman's work, was probably preceded here as in Europe by the primeval hand distaff and spindle whorl which still survives in remote corners of the world.

Wild Duck. 40. Everywhere pursued by sportsmen, represented by

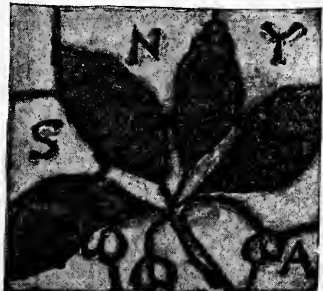


40

many species whether nesting in Pennsylvania or the far north, migrating at railroad speed high in the air, in Y-shaped flocks, lured by wooden decoys, stalked from blinds, retrieved when dying in the water, by so-called Chesapeake Bay dogs bred from a Labrador original in 1807, courting death or danger whenever in season he lights for food or rest on pond, river or bay, the wild duck out classes in the typical form of the celery-eating canvasback, all lauded products of the American kitchen.

vatica.) The mosaic shows the leaves of the sour gum tree, familiar in northern and southern states as the pepperidge and tupelo. Lofty, tough, fine-leaved, flashing scarlet in autumn, heavily fruited with blue berries once beloved of the now vanished wild pigeon and other birds, often the hollow-trunked harbor of "coon" and "possum," the gum tree furnished cylindrical hollow trunk sections which often lined the spring to make the water "taste sweet," or stood in the old orchard or barn as "bee gum" (beehive) or "salt gum" (salt box) for cattle feed.

Sour Gum. 39. (*Nyssa syl-*



39

Tin Lantern. 38. A conical-roofed cylinder of tin plate, with handle ring and candle socket, and without glass windows or reflector, was the universal farm lantern of the Eastern United States, and well known in England and Ireland, from the early eighteenth century until about 1840. A similar form, probably of brass, used in

(38 Continued)

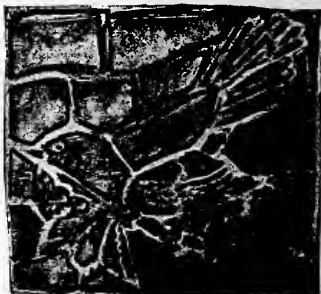


38

the middle ages, but not common till the invention of tin plate in England in 1670 made the tin lantern possible. Lights and shadows flicker through its punctured glassless sides as through the brazen network of the mosque lamps of the Mohammedan orient. Hide the tin lantern under your coat on the way to the barn of a windy night or out it goes. Seen in use at Connellsville in Fayette County in 1890.

Catbird. 43. (*Galeoscoptes carolinensis*.) The slate-colored, black-polled catbird, haunting blackberry bushes, thickets and shrubbery, eating raspberries, strawberries, blackberries, mulberries, cherries, grapes, spice and pokeberries, nesting with four greenish-blue unspotted eggs in a heavy twig nest, is familiar near the Pennsylvanian farmhouse and orchard from April to November. One hundred persons know well the mewing catlike note of the bird, to one, who recognizes his full enthusiastic May song varied with imitations of other bird notes.

Clearing the Forest. 42. The mosaic shows in Latin, the words **LABOR VINCIT SYLVAM**. Translated—Labor conquers the forest, referring to the work of thousands of human hands, in felling that part of the primeval forest named after William Penn, in rolling and burning logs and brush, in digging out roots, and in plowing and planting the virgin earth. Thus it happens that particles of charcoal can



43

be found in nearly every square foot of Pennsylvanian soil.



42

Orchard Oriole. 41. (*Icterus spurius*.) Where the red earthen pots dry on fence palings, where the buttonwood tree overhangs the spring, or where by the old smokehouse, the west wind scatters apple blossoms, the orchard oriole, richly feathered in orange and black, hangs his swinging nest; and the question arises, how and where did he live and love when orchards did not exist, when the vast sun-darkening forest shadow was everywhere, and

when no bird's eye had yet seen the the life of the farm?



46

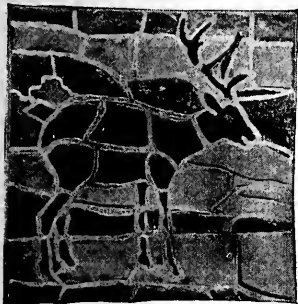
Chimney Swallow. 46. (*Chelura pelagica*.) Continually on the wing, moving at the rate of a mile a minute, skimming the pond's brim, dipping under water, or darting close to the meadow grass, master in



41

the matchless gift of flight, the short-tailed, long-winged, dusky, chimney swallow must have ceased gluing his nest of twigs to the

walls of caves and hollow trees, and resorted to the previously unknown farmhouse chimneys, about 1720. When (1860-'90) the farmer substituted a small stone flue for the old chimney, or capped the latter with a terra cotta tube, the bird turned (1880) to the houses of the rich, where large chimneys were revived.



45

The Elk. 45. (*Cervus canadensis*.) Yellow-bodied, with brown head and mane, an immense deer, with huge antlers shed and regrown yearly, wallowing in mud, or standing in water to escape summer flies, herding in season, called "Wapiti" by the Iroquois Indians, and miscalled elk by whites, the animal is glorified in scores of geographical names upon the American map. He was exterminated by sportsmen and gunners in Pennsylvania about 1850.

Hawk. 44. With secret admiration, the farmer nails to his barn side the feathered carcass of the fierce, soaring chicken robber, his master in



44

the supreme physical gift of flight, demonstrating by continued existence, the bird's victory in a never ending struggle with the human gunner. Cousin to the eagle, one of a race admired more than the gentler lower creatures, by patriots, statesmen, legislatures, kings, aristocrats and democrats, the bird typifies strangely the unchristian aspirations of democratic America, republican France, autocratic Russia, and imperial Germany and Austria, stamping now the "almighty dollar" with patriotic suggestion, as it once called to duty the legions of Rome or the warriors of Napoleon.

Splitting Shingles. 47. Before the days of lumber mills, sections of oak logs

were split into shingles by pounding with a club, upon an L-shaped knife, the frow Then a man sitting astride a homemade device, the shaving horse, and clamping the shingles by foot pressure upon a lever, trimmed and smoothed them with a drawing knife.

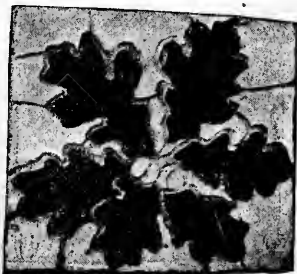


47

Oak Leaves. 53. Long lived, colossal, durable, highly valued for wood, bark and sawdust, represented by a multitude of varieties, as the red, black, swamp, willow, chestnut and pin oaks, or as

the familiar ashen-barked white oak, frequently marking the land boundaries in old deeds, the oak, though unknown in Australia and tropical Africa, ennobles the forests of Europe, Asia and America in the north temperate zone.

Cardinal Bird. 49. (*Cardinalis cardinalis*.) Vivid scarlet, crested, heavy-billed, active, nonmi-



53

(49 Continued)



49

gratory, named from the scarlet robe of the Catholic high priest, most conspicuous of songsters, lurking in summer in chosen wet bramble thickets, or flashing hope and warmth into the drab woods of winter, the cardinal bird, rich in song, is often seen imprisoned for life in a small cage.

The Red-Headed Woodpecker.

48. (*Melanerpes erythrocephalus*.) The sight of the brilliant bird, with scarlet head, white breast

and wings, and black body, gamboling upon the old "worm fence," drumming upon the dead tree top, or startling the woods with cheerful trumpet, is worth in inspiration to advancing humanity, all the corn and apples that the woodpecker may eat between his insect feasts.



48

Sour Gum. 57. (*Nyssa sylvatica*.)

The mosaic shows the leaves of the sour gum tree, familiar in northern and southern states as the pepperidge and tupelo. Lofty, tough, fine-leaved, flashing scarlet in autumn, heavily fruited with blue berries once beloved of the now vanished wild pigeon and other birds, often the hollow-trunked harbor



57

of "coon" and "possum," the gum tree furnished cylindrical hollow trunk sections which often lined the spring to make the water "taste sweet," or stood in the old orchard or barn, as "bee-gum" (bee-hive) or "salt gum" (salt-box) for cattle feed.

Woman Dipping Candles.

52. From a small six eight or ten-armed turnstile, the woman lifts off the suspended wooden disks, one by one, each hung with from twelve to thirty candle wicks, and immerses the wicks in tallow, melted over water in a

large pot swung upon a wood fire. Where the autumnal wind blows cool by the sooty smokehouse or flagged out-kitchen, the grease hardens into candles as the disks go round.

Red-Eyed Vireo. 50. (*Vireo olivaceus*.) One of the tireless little songsters, feeding on insects, staining his white throat with pokeberries, black-



50



52

berries and mulberries, and devoted foster parent to the founding cowbird.

Redbud. 56. (*Cercis canadensis*.) Where a wild vanguard of southern redbud or Judas trees grow in the Susque-

(56 Continued)



56

ing out of grain with a single stick. The flail in 1900 survived on small Pennsylvanian farms, where the rhythmic strokes of several thrashers together, drummed the barn floor like the hoof echoes of a trotting horse upon a hard road.

Sugar Maple. 54. (*Acer saccharum*.) In none of its variously named forms of swamp, rock, red, silver, or transatlantic Norway, is the maple family so renowned as in the celebrated tree with warped bark ribs, known as the sugar maple (*Acer saccharum*.)



54

and shelter where he may, remains over winter in Pennsylvania. Long after the milkers' lanterns have left the barn, and early risers have gone to bed, before the late April moon rises, and when all is silent at the farm save for the nightly stamp of the stabled horse, or the splash of falling water in the log trough, the quavering sinister hoot of the screech owl, frightens the awakened slumberer with a world-old fear.

Cooking Apple Butter. 58. After paring and cutting the apples, boil down the pieces in cider all night.

hanna woods, stand beneath the yet leafless boughs gleaming in crimson blossoms, and while the bees hum, and the spring zephyr brings memories of far away southern forests, forget even the snowy shad bush, and the white vernal glory of the matchless dogwood.

Thrashing With the Flail.

55. After (in Roman times) the thrashing of grain by cattle-tread, by rolling of logs, or by the scratching of boards toothed with flint chips, the flail, a short staff swung upon a long one, invented in the middle ages, followed the pound-



55

Having perforated the bark with small holes, under-drained with little sheet iron troughs, catch the exuding sap in buckets, to be boiled and hardened as maple sugar, or liquified as maple syrup, nationally renowned as a sweetening for the hot buttered buckwheat or griddle cake.

Screech Owl. 51. (*Megascops asio*.) Red or grey, with feathered horn-like ears, feeding upon mice, beetles, moles, grasshoppers and small birds, nesting with four or five nearly round white eggs in a hollow tree, the screech owl, finding food



51

(58 Continued)



58

bark and sawdust, represented by a multitude of varieties, as the red, black, swamp, willow, chestnut and pin oak, or as the familiar ashen-barked white oak, frequently marking the land boundaries in old deeds, the oak, though unknown in Australia and tropical Africa, ennobles the forests of Europe, Asia and America in the north temperate zone.

The Spud. 62. With a small concave blade at the end of an iron



62.

he works with a plow, armed with a shovel-shaped, nearly vertical blade, still used in 1908 to turn out potatoes, and surviving through the middle ages from a Roman original.

Stove Plate. 60.

The mosaic shows the pattern of one of the five-plated iron "wall" or "jamb" stoves (1720-1760) made to heat not cook, of five heavy cast-iron plates without stovepipe or door. Like a box the ancient

Let the whole able family stir by turn, with the perforated arm of a pole, as the mosaic shows, or with a cranked paddle, reducing the liquid to the consistency of a dark brown thick sauce. Thus you make the famous *laht varreck* or apple butter of the Pennsylvania German, derived from the less universal *latwerge* (fruit sauce) of Germany.

The Oak. (Without number.) Long lived, colossal, durable, highly valued for wood,



(Without Number)

rod hafted in a wooden handle, you push under and peel off the bark of the rock, black, swamp and chestnut oak, or best of all, of the birch tree, for use in tanneries. This work now confined to lumber regions, or zones of tree-extermination by steam saws, was once common on eastern farms, while tree felling was still universal, and domestic tanneries now extinct, always in need of bark, followed the sound of the axe.

Plowing With the Shovel Plow. 61. The plowman skips, scratches, or deeply furrows the newly cleared land, where among stumps and fibres a plowshare would wedge under horizontal roots. Thus



61

(60 Continued)



60

stove protruded into the room it heated, and being fed by fuel inserted into it through a wall hole, emitted its smoke through the same orifice and backward into an adjoining fireplace. Here under the name of the iron master and a series of symbolic tulips, and above the date 1751, is the motto "DAS. LEBEN. JESU. WAS. EIN. LICHT." Translated—The life of Jesus what a light.

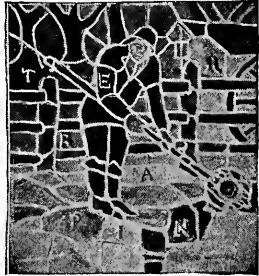
Catching Terrapin. 63.

Thrust an iron-pronged pole into the deep cold mud at the brook's eddy, until a dull vibration tells you of the

self-buried carapace of the fresh water terrapin, asleep for the winter. Then pull him out with a spoon-shaped fork on the reverse of the pole, and bag him. Thus the catcher exterminates rapidly, for sale at about three dollars per dozen, the fresh water terrapin (*Pseudomys rugosa*), to resell as meat of his famous edible cousin, the salt water terrapin (*Malacoclemmys palustris*), at five dollars per quart.

Sour Gum. 65. (*Nyssa sylvatica*.)

The mosaic shows the leaves of the sour gum tree, familiar in northern and southern states as the pepperidge and tupelo. Lofty, tough, fine-leaved, flashing scarlet



63

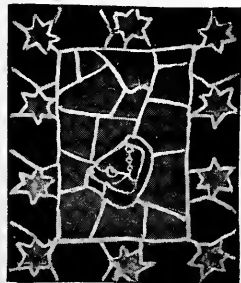
in autumn, heavily fruited with blue berries once beloved of the now vanished wild pigeon and other birds, often the hollow-trunked harbor of "coon" and "possum," the gum tree furnished cylindrical hollow trunk sections which often lined the spring to make the water "taste sweet," or stood in the old orchard or barn as "bee-gum" (bee-hive) or "salt-gum" (salt-box) for cattle feed.



65

Lard Lamp. 64. The characteristic lamp of the world from Roman times until the 19th century, and generally used in farms,

cabins and mills in Pennsylvania until 1820-'40. Easily traceable backward through the people's lamps of Italy, Germany, Russia, Turkey, France, the Azores, Spain and Scandinavia, to ancient times. Of sheet or wrought iron, brass, tin or copper, boat-shaped like the double-trayed croosie of Scotland, or the synagogue lamp of Morocco, with long barbed and sometimes swiveled hook, the lamp was frequently adorned upon its hinged or pivoted lid, with a handle shaped after the chicken cock, in memory, like many vanes (in shape) and water spigots (in name), of the turning of St. Peter at the cock's crowing. Thrust



64

the hooked prong into a beam, or catch its barb on a nail or log crevice. Then filling the vessel with lard (kept liquid in cold weather with a hot brick), liquid animal fat, linseed or whale oil, light the twisted tow (later cotton) wick, laid along the lateral trough and so tilted as to allow the oil oozing from the flame to flow back into the lamp. By the light brighter than a candle, read after dark, work at the loom, or paint and varnish with vegetable colors and cherry gum liquified in whiskey, the "Fractur" manuscript. Thus in October 1897 David Getter fried potatoes at night on the open hearth of his log cabin near Springtown, Bucks county, Pennsylvania.

Frying in the Open Fire. 68. Reaching a long-handled wrought iron pan, greased with lard or ham fat, over the glowing oak or hickory embers of the kitchen hearth, the farmer's wife fried "saus," ham, puddings, mush, scrapple, fish, all meats indeed, and pancakes, tossing the latter up the chimney to turn and catch them upside down. Disused with open fire cooking 1830-'50.



68

cut up the pared apples to be boiled in cider for apple butter. Before country steam mills superseded the practice, songs were sung in English, not German, among Pennsylvania Germans, who having abolished secular singing long ago, are at last 1908 perforce by the phonograph, strangely introduced to the ignoble song tune of the city concert hall.

Wild Duck. 66. Everywhere pursued by sportsmen, represented by many species whether nesting in Pennsylvania or the far north, migrating at railroad speed high in air, in V-shaped flocks, lured by wooden decoys, stalked from blinds, retrieved when dying in the water by so-called Chesapeake bay dogs bred from a Labrador original in 1807, courting



66

Paring Apples. 67. Turning a small crank which causes a skewered apple to revolve, you make the apple skin fly off in a long spiral as you press a spade-shaped, strap-fastened knife to the whirling fruit. Thus working in Pennsylvania until about 1860, you anticipated the modern apple paring machine, and prepared the fruit for the neighborly "schnitzen" frolic, when a score of merry neighbors



67

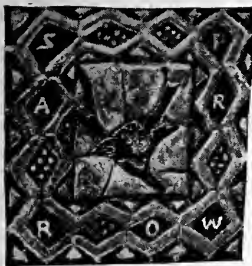
death or danger whenever in season he lights for food or rest on pond, river, or bay, the wild duck out classes in the typical form of the celery fed canvas-back, all lauded products of the American kitchen.

Song Sparrow. 70. (*Melospiza melodia.*) Below the ripples where the mill stream lingers by bridge or eddy, and the jetty water beetles dart in circles over the odoriferous pool, the song sparrow, seizing a branch of hazel, or

(70 Continued)

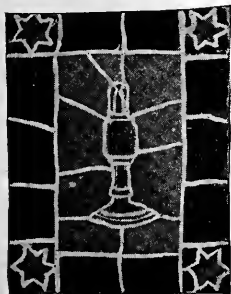
the topmost fresh-leaved spray of willow, outvieing all his kindred, stirs the heart with his sweetest keynote of spring.

Candlestick. 69. A tube of sheet iron set upon a circular convex base, and provided with a movable socket raised or lowered in a slot, held the dipped or moulded candle, universal in the kitchen and farmhouse before the introduction of kerosene. Thereafter used by farmers to scrape off the bristles from the scalded carcasses of hogs.



70

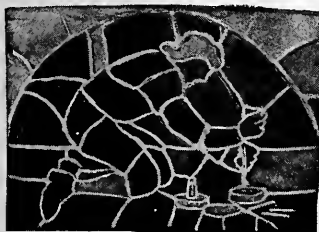
Fluid Lamp. 82. In this obsolete, short-lived pewter or glass lamp, with one, two or three small round wicks, the cradle light of many a man yet alive, and greatly in vogue between 1840 and '50, burned the so-called camphine, a fluid mixture of turpentine and alcohol. Keep the tube capped while not in use to save evaporation. If you lose the little pewter cap generally chained to the wick tube, replace it with a cock's spur.



82

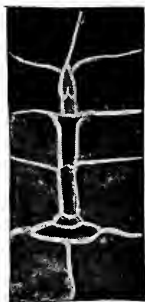
or a wood-hafted iron wedge. Thus the colonial farmer worked in Pennsylvania to prepare corn grains for subsequent boiling as hominy. Thus until 1880 negroes pounded hominy at Cambridge, Maryland. The colonial slave worked on a larger scale, as shown in the mosaic, with a heavier mortar and ponderous pestle suspended from the overbent springing top of a hickory sapling.

Tinder Box. 80. Holding between the thumb and forefinger of the right hand a piece of imported gun flint (long quarried at Brandon



80

dering rag with an inner tin lid dropped upon it. Thus you were master of the house of a winter's morning when the fires were out.



69

Pounding Hominy. 81. Break and hull the grains of corn in a heavy wooden mortar hollowed from the trunk of a gum tree, by pounding with a bar of smith-forged iron,



81

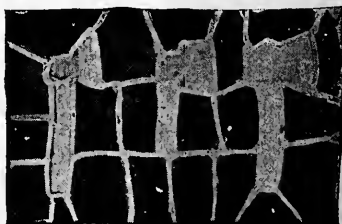
in Suffolk, England), strike it diagonally against a circlet of properly tempered steel held in the left hand, so that a spark flies downward upon a dry scorched linen rag lying in a tin cup (the tinder box). When the spark instantly catches the rag, blow or touch it into a flame against the sulphur-tipped end of a match which will not otherwise ignite. Then with the burning match, light a candle socketed in the lid of the tinder box, and smother the smouldering

This was better than spinning a wheel against a flint fixed at the end of a steel trough, or pounding fire upon tinder by air compression through a metal cylinder (1815-1820), or snapping a flintlock-tinder pistol. Disused with other light striking processes upon the invention of percussion matches about 1830.



78

The Carpenter's Hatchet. 71. Two tools, the little hand axe and the claw hammer, served the carpenter until about 1800, to cut and pound wood, and to drive and pull wrought nails. When lath and plaster replaced ceiling beam, and wall panel, the hitherto unknown and incessant lath cutting and nailing required the invention of the American carpenter's hatchet



71

with an inferior side-notched nail pull upon the blade, which transformed the two older tools into one.



72

iron or wood, strapped to the mid fingers of the right hand, and projecting between thumb and forefinger.

Stove Plate. 73. The mosaic shows the pattern of one of the five-plated iron "wall" or "jamb" stoves (1720-1760) made to heat, not cook, of five heavy cast-iron plates, without stovepipe or door. Like a box, the ancient stove protruded into the room it heated, and fed by fuel inserted into it through a wall hole, emitted its smoke through the same orifice, and backward into an adjoining fireplace. Here under the name of the iron master and a series of symbolic tulips

Husking Corn. 72. No machine having yet been invented to husk maize, the farmer having thrown the unbound shock of stalks, cleared from the "horse" stiffened stack, up on the ground, still (1908) kneels in the cold autumnal days, as his colonial ancestor did, upon the dry stalks, tearing the husk from the ear by means of a peg of



73

and above the date 1751, is the motto "DAS. LEBEN. JESU: WAS. EIN. LICHT." Translated. The life of Jesus what a light.

Kingfisher. 74. (*Ceryle alcyon.*) The man with country boyhood, who learned to swim where still water runs deep in the "horse hole," or by the roaring breast of the old mill dam, can never forget the echoing trumpet of the kingfisher, as the restless, big-headed, black-collared bird, fly-



74

ing over the ripples and diving by pond lily, arum and calamus, sets going the wild echoes of woods, air and water.

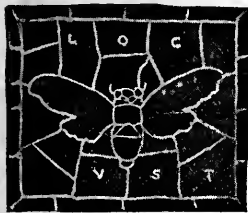
Swingling Flax. 75. With the swingle or scutching knife (schwenk messer), a flattened club about 16 inches long of oak, the man knocks off loosened stalk shreds from the previously broken flax, held by handfuls across the end of an upright board. Disused 1830-'40.



75

Locust. 103.

(*Cicada septem decim.*) The hot July air thrills with the song of the cicada (improperly called locust after the European grasshopper-like



103

insect), sounding his abdominal drum, who having come out of the earth (in extra hosts on certain years), climbs a few feet up a tree trunk, emerges from his translucent subterranean armor and takes wing.



102

Making the Farm Fence. 102. Three or four

split and sharpened rails inserted into perforated hewn posts, superseded slowly the "worm" or "snake" fence made of split rails and poles piled zig-zag, or supplemented the wall fence of loose or mortared stones where stones were plenty.



100

Dragon Fly. 100. Believed to be the "doctor" or feeder of the water snake, by the barefooted country boy, as the latter searches the brook for bullfrogs, or lifts with skilled hand the unresisting half-hypnotized mullet "sucker" from his water hole under the bank. The dragon fly "snake feeder,"

emerging from an early submarine life, to cast its shell and take wing vies with the butterfly as a charmer of children, and type of the fire, and energy of mid-summer.



Making Bricks. 77. The red-shirted, sun-browned brickmaker, scattering sand and splashing water, slams a mass of soft plastic clay into a brick-shaped sanded mould of wood or iron, open at top and bottom. This when so filled, the barefooted "off-bearer" seizes, carries off to dump on the clay drying floor, and brings back empty. Generally disused (1895) for the mechanical process of squeezing plastic clay slowly through a brick-shaped tube, and cutting off into bricks with wire.

77

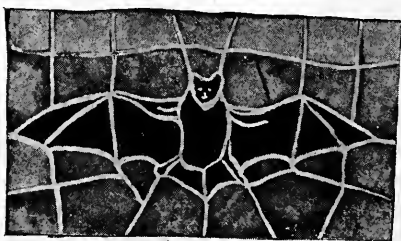
assistant pounded drugs in a white marble mortar with a stone, wood or porcelain pestle, thus justifying the device of a mortar and pestle carved in wood and often gilded, symbolizing the art of medicine, still (1908) sometimes set above the pharmacy door as a sign. The mosaic, intended to express Pennsylvania's distinction in medicine, shows the Latin motto GLORIA CIVITATIS. Translated—Glory of the state.

Medicine Mortar and Pestle. 76. The apothecary's as-



76

Bat. 98. (*Vespertilio*.) Marvellous, weird, night-seeing, alert after a day trance, hanging heads downward on wing claws, in cave, hollow tree, open cellar, or ruined barn, sometimes for mother love weighted on the wing with clinging brood, the fantastic bats enter after dark the open



98

window of the shining bedroom, snuff the kitchen candle, chase twilight beetles over tree top and lawn, or as demons of the night breeze, tease the boy players of "kick-the-wicket" who once followed them shouting as in the old Maryland child's rhyme—

"Leather-winged bat, fly under my hat

And I'll give you a ham of bacon."

Penn's Treaty. 97. As a noble-hearted leader of Christian Friends, seeking to mollify the stern rule of might makes right, by which advanced nations seize the waste lands of the world from their primitive owners, and by which Pennsylvania was granted him by the English Crown, William Penn desired to dispossess his Indian land owners by gifts and kindness rather than by force. To his honor and glory stands the memory of a celebrated treaty of friendship (broken afterwards in 1737 by his sons) with the Indian land owners, said to have been made by Penn under a large elm tree on the right Delaware River bank at Kensington above Philadelphia. In the midst of wharves, factories, ware-houses and a few ancient,

(97 Continued)



97

Audubon societies, indignation meetings, bird lectures and leaflets, killed by women's agents for head or hat decoration.

Cider Flagon. 106. A large wooden flagon, hooped and lidded, brought up cider from the cellar of a Saturday



106

night, or in early apple season carried refreshment to the thirsty reapers, who toiled with grain cradle or sickle at wheat, rye or oats harvest, before the days of the reaping machine.

Gridiron. 84. Not over the flame of an evil-smelling, modern kerosene stove, nor under the gas jets of the modern city hotel range, nor over the anthracite coal fire of an unlidded stove, but close above the glowing hickory embers of the old open hearth fire, hold the chop, steak or fish, upon a wrought iron grill sometimes furnished with channeled bars. Then as distinguished from penetrating the

meat with hot water (boiling), penetrating it with hot fat (frying), penetrating it slowly with heated air in a confined oven (baking), or slowly with heated air radiated sideways from an open fire (roasting), you suddenly sear the meat in the uprising heat, so as best to retain its flavor and juices, (broiling). Thus in the simplest and most scientific manner, you cook a dish to set before a king. Now, coal oil and gas cook stoves, permitting to the cook many idle makeshifts, have changed cookery. "Roast beef" being nearly always baked, no

smoke-blackened dwellings, a small marble monument now (1909) marks the site where the "treaty tree," protected by the British garrison in 1776 as a venerable relic, blew down in 1810 at the age of 283 years.

Heron. 79. Of many kinds, long-legged, deliberate in flight, fish-eating, wading in mud and water, nesting in colonies on small tree tops, migrating in winter to the south, often magnificently plumed in blue, white or green, and inadequately protected by bird laws, the unfortunate heron is still sacrificed (1909) in great numbers, and, in spite of twenty years of



79

Bear Trap. 83. The little steel trap of to-day, used by boys to catch musk-



83



84

wings, cheering summer with his lively "bob-white" note, how did the now meadow-loving quail subsist in the earlier days of the great meadowless forest?

(84 Continued)
longer really exists, and the country cook who often soaks potatoes after boiling, to the consistency of soap or beeswax, having cast aside the gridiron, frequently boils the beefsteak or mutton chop in hot grease, that is to say, fries it.

Quail. 85. (*Colinus virginianus*.) Prolific, ground-nesting, nonmigratory, gathering in winter coveys, preserved by game laws, rising for the sportsman with explosive whirring of



85

Domestic Turkey. 88. The familiar farmyard turkey of Christmas and Thanksgiving feasts in America, having been originally domesticated from its wild Mexican cousin (*Meleagris mexicana*), by prehistoric New Mexican cliff dwellers and Aztecs, went first to Europe with the Spaniards. Bred in the farmyards of Italy, England, Germany and France, and illustrated in the paintings of Bassano in the 16th century, the American turkey, called "welsch hahn" and "indianer" in Germany, "dandon" in France, and miscalled after the Sultan's country in the land of its origin, came back to the new world by way of the old.

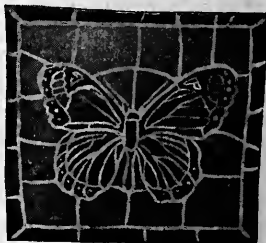


88

of the most marvelous changes in nature, sometimes lasting over winter, by way of egg laid upon a twig, voracious leaf-eating skin-molting caterpillar, pseudo-death as a grub-mummy wrapped in self-made coffin, long sleep, and resurrection, the sun-loving, honey-seeking, gorgeous

butterfly, canceling in winged beauty the caterpillar's harm, emerges upon the lap of summer to outvie the fairest of her flowers.

The Butterfly. 92. Through one



92



94

House-Fly. 94. (*Musca domestica*.) The familiar, buzzing, warmth-loving, house-infesting, disease-spreading insect, grown in filth and garbage, particularly horse manure and decaying fruit, and

developed within a month through egg maggot and fly, was probably introduced from Europe with the horse, by the first settlers.

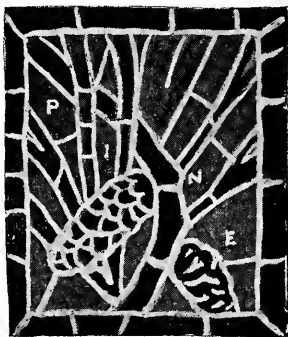
Conestoga Wagon. 96. The immense ponderous schooner-shaped wagon, of probable German descent, named from the site of its earliest make along the Conestoga Creek in Lancaster county, with home-spun linen cover stretched on wooden bows, and drawn by four to six walking horses often equipped with bells, transported freight across the Alleghenies and south of New England lines of sea and lake transport, before railroads were built. In lighter form, a celebrated wagon of national type, as



96

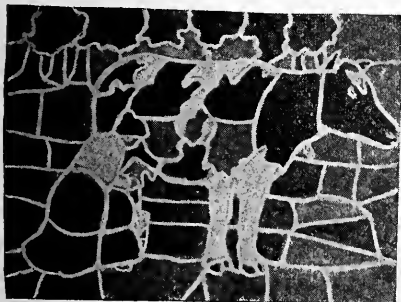
the "prairie schooner," it bore the American emigrant and his family "Westward Ho."

Pine Cones. 99. Sawed for boards, hard or soft, yellow or white, or scored for exuding resin, covering the northern hills and southern swamps, origin of pitch, the pine tree, in various forms, but most distinctive as the beautiful white pine (*Pinus strobus*), with its bare wing-like limbs feathered only at the ends, rivals in form the cedar of Lebanon or the deodar of India. Cut with the axe or movable saw, and floated down the stream in the form of trimmed logs, the tree seems to approach extermination.



99

Milking the Cow. 89. Universally important in the economy of the American farm, of inestimable assistance to man as contributor for several thousand years, of beef, leather and milk, the cow everywhere proclaims the dependence upon European ancestry of the American, who having never domesticated and almost exterminated his own cow (the bison), utilizes the European animal domesticated by his prehistoric ancestors in the stone age.



89

Cherries. 110. (*Prunus cerasus*.) Rival of the strawberry, beloved of boys and birds, associated with the flavor of cherry bounce and pie, the delicious European fruit, in its best known forms



110

of pie, oxheart, or black cherry, when freshly imported, and grown by the log cabin of the pioneer, may have been seen by the Indian before his expulsion from Pennsylvania. The Pennsylvanian must thank the horticulture of his European ancestors for this fair fruit of early summer, brought to Europe by Lucullus the Roman epicure, from Cerasus of Asiatic Pontus. Cultivated for centuries in France, England and Germany, the cherry tree, if in Pennsylvania degenerating in fruit, has not failed in the magnificence of its white bloom, which, gladdening the roadsides when the meadow lark sings his spring song, only yields to those blossoms which the Japanese wonder at on April seventh.



123

Pressing Steel Plate.

123. The modern iron-worker flattens a sheet of hot steel by subjecting it to immense pressure under an hydraulic press.

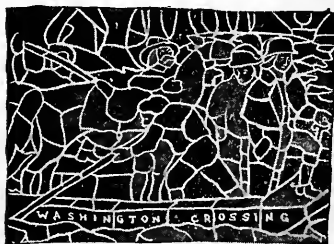
Snapping Turtle. 186. (*Chelydra serpentina*.) Ferocious, carnivorous, devourer of frogs, tadpoles, and young ducks, only half-protected by his under shell, always fighting in self-defense, most active of the turtle tribe in Pennsylvania, inhabiting the muddy bottom of the mill pond, the snapping turtle, grand trophy of torchlight fisherman and wandering boy, sometimes caught with red flannel on a fishhook, is the origin of a celebrated "snapper soup" popular in country restaurants.



186

Washington Crossing the Delaware. 90.

On Christmas night 1776, General Washington led the American army secretly in flatboats, across the Delaware River just above the present (1908) bridge at Morrisville, Bucks county, and surprising the Hessian army employed by the British, defeated them at Trenton and captured their General Rahl.



90

Black Bear. 95. (*Ursus americanus*.) With dog and gun, man finds a bloody amusement in rapidly exterminating the honey-loving, ant, fish, and root-eating, vegetarian and carnivorous, black bear. Glossy-black, brown-cheeked, dog-fearing, harmless (unless with cubs or in self-defense), the tree-climbing, hibernating animal, was revered, almost worshipped, yet hunted and eaten by Indians, in the



95

primeval forest. Close kin to the brown bear of Europe, the once abundant black bear in vain retires to inaccessible places to escape the relentless and untiring hatred of his human pursuer.



109

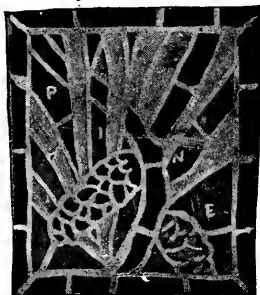
scored for exuding resin, covering the northern hills and southern swamps, origin of pitch, the pine tree, in various forms, but most distinctive as the beautiful white pine (*Pinus strobus*), rivals the cedar of Lebanon or the deodar of India, with its bare wing-like limbs feathered only at the ends. Cut with the axe or movable saw, and floated down the stream in the form of trimmed logs, the tree seems to approach extermination.

The Spud. 109.

With a round-bladed bark chisel, working like the man in the mosaic, the farmer stripped rock, black, swamp and chestnut oak bark, or best of all birch bark, for the tanner. Discontinued as a common practice with the abandonment of country tanneries about 1860.

Pine Cones. 119.

Sawed for boards, hard or soft, yellow or white, or



119

Flax Brake. 120.

An apparatus of heavy oaken home make. Three horizontal oak knives connect cross beams on legs. Hinged over them, two similar knives, weighted by heavy oaken ends and a parallel bar handle, dovetail between the lower knives at

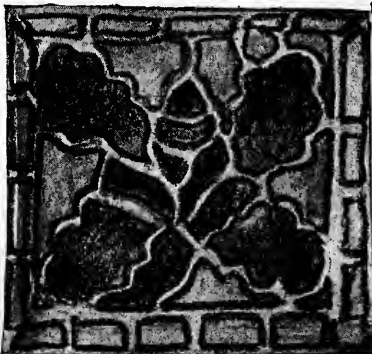


120

each blow of the upper frame, which the worker lifts and drops with a down thrust upon the rotted flax stalks laid across. This reduces the useless stalk to fine splinters and chaff, which, by a later operation, scutching or swingling, is dusted away from the fibre. Discontinued 1840-'60.

Oak Leaves. 124.

(*Quercus*.) Long-lived, colossal, durable, with color-producing bark, hard wood and sawdust, highly valued by the carpenter, the slow growing oak, though familiar



124

in Europe and Asia, is unknown in Australia and tropical Africa. In various forms, as the black, red, pin, white, and swamp oak, it ennobles the forests of America in the north temperate zone. The familiar ashen-barked white oak was the frequently named land mark in old deeds.



91

The Elk. 91. (*Cervus canadensis*.) Yellow-bodied, with brown head and mane, an immense deer, with huge antlers shed and regrown yearly, wallowing in mud, or standing in water to escape summer flies, herding in season, called "Wapiti" by the Iroquois Indians, and miscalled elk by whites, the animal is glorified in scores of geographical names upon the American map. He was exterminated by sportsmen and gunners in Pennsylvania about 1850.

Moose. 132. (*Alces americanus*.) Gigantic, reddish brown, heavy-lipped, small-eyed, armed with very broad palmate antlers, with long fore and short hind legs, and neck not adapted to grazing, the immense deerlike moose, known to the white man in the northern pine forests of Maine and Canada, feeds upon the leaves, buds, and bark, of trees or hillside bushes, or wades in the mud for the roots of the yellow pond lily. Hunters lure it to death with birch bark trumpets imitating the cow moose's call. Though probably absent in Pennsylvania in the colonial period, its bones found in Durham Cave, Bucks county, show that it ranged the Delaware Valley in earlier Indian times. Similar north European species nearly extinct.



132



118

Forging a Chain. 118. The white-hot links of iron are welded around each other by hammer blows against the adjacent segments, fluxed with borax at the right moment.



116

Spinning Wool. 116. By means of a short wooden rod, knobbed at the end, the woman sets the large wool wheel whirring, and this by a woollen strap, whirls the spindle, which winds on the thread as she measures it between thumb and forefinger of her left hand

grasping the carded roll of raw wool. Disused about 1830. Rare instances of use 1860-'80.

Oil Well. 117. When the narrow bored petroleum pump hole, having become clogged at a great depth, is blasted, by dropping a pointed iron weight (go-devil) upon a dynamite cartridge, the oil pressed upward by subterranean gas, bursts skyward in vapor above the derrick. Petroleum, used by Indians as a medical lubricant, or burned for sport when floating as an iridescent scum on Oil Creek, was applied about 1850 in western Pennsylvania as a world illuminant, revolutionizing all ancient lighting appliances. It had burned spontaneously at Baku on the Caspian Sea since prehistoric time, as an inspiration to the earliest Parsee fire worshippers.

117

spiration to the earliest Parsee fire worshippers.

Seal of Germantown. 122. A three-petaled clover leaf is surrounded with the Latin inscription SIGILLUM GERMANO POLYTANUM, translated, Seal of the German Commonwealth.



122

The Loon. 121. (*Urinator imber.*) The remarkable bird walks with difficulty, rises to fly at a long angle with great effort, but dives like the otter to outstrip and catch the darting fish. When migrating to or from its northern nest, the loon halts to rest upon inland water, the farmer rushes for his gun.

121

Coal Miner. 131. Member of a threatening army rebellious against ancient economic conditions, the modern coal miner, lamp in hat, crouches in the propped subterranean gallery, pumped free of water or fire damp, to dig with a pick axe, lumps of hard or soft (anthracite or bituminous) coal, from the deep strata of the Susquehanna, Lehigh or Allegheny mines.

Coal Dealer's Wagon. 129. With a loud hissing noise, a load of anthracite coal is shot from the coal wagon's body, elevated upon cog-wheels, down a long sheet iron trough,



131

(129 Continued)



through a wall or pavement hole, into the cellar coal bin.

Wild Duck. 130.

Everywhere pursued by sportsmen, represented by many species, whether nesting in Pennsylvania or the far north, migrating at railroad speed high in air, in Y-shaped flocks, lured by wooden decoys, stalked from blinds, retrieved when dying in the water, by so-called

129

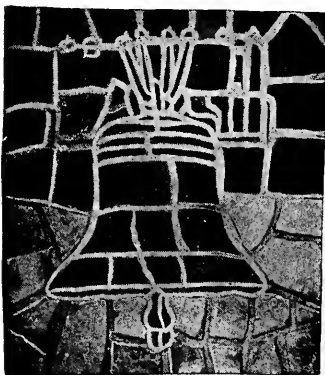
Chesapeake Bay dogs (bred from a Labrador original in 1807), courting death or danger, whenever in season he lights for food or rest on pond river or bay, the wild duck outclasses in the typical form of the celery fed canvasback, all lauded products of the American kitchen.



Liberty Bell. 127. A greatly valued national relic kept at the State House in Philadelphia. In size 12 by 4 feet, weighing 2080 pounds, with motto from Leviticus "Proclaim Liberty," and stamped with order of assembly, caster's

130

name, advertisement and date 1753. It rang at several crises in the Revolutionary War with England, tolled at national funerals, and was displayed at national exhibitions. It cracked tolling for Chief Justice Marshall, July 8th, 1835.

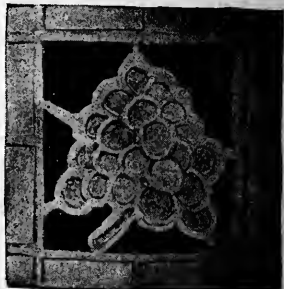


127

deteriorated by soil, climate, or lack of skill, in spite of extensive efforts in California, New Jersey, New York, etc., no longer (1908) produces for the American the ancient drink of his European ancestors.

Skunk. 125. (*Mephitis putida*.) With long fur richly painted in black, white or brown, hiding by day in wood pile or ruined cellar, the nocturnal, chicken-killing skunk, celebrated and dreaded because of the pungent overpowering defensive liquor cast by it

Grapes. 126. The European grape having produced wine for eighteen centuries, when transplanted to the garden of the Pennsylvanian farmer and generally neglected, though remaining sweet and edible, so as to outrival the native fox and chicken grape, or flavor a home-brewed, sugared, acid beverage miscalled wine, whether



126



125

tury, the pattern of a keystone was used as an emblem of the state.

Chicken. 390. Probably descended from the wild chicken (*Gallus ferrugineus*) of India, and domesticated by man in prehistoric times, ever-present follower of humanity, and contributor to its progress with flesh, feathers and eggs, the domestic chicken,



390

as the red fox of the north, or as the grey fox of the south, the celebrated animal, either burrowing in the earth, or living in rocks or hollow trees, is respected and hated by man. Driven into nets or dug out for extermination, until about 1650 in Britain, the fox began to allure the red-coated hunter and his hounds by the end of the 17th century. Thenceforward, protected as a target for sport, glorified by his destroyer in the fun of pictures, horns, hounds, redcoats, Irish reels, club rooms and balls, he becomes the type of the national sport of Eng-

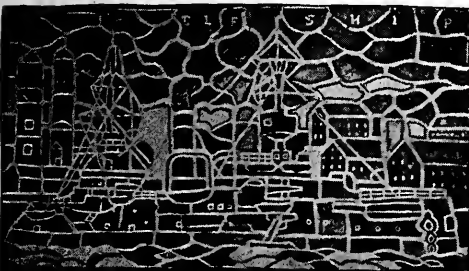
unknown in pre-columbian America, has been more indispensable to man than the food-producing pig, if less so than the labor-contributing horse, the milk and leather-producing cow, and the wool-furnishing sheep.

Fox. 399. (*Vulpes fulvus.*) Sly, stealthy, slit-eyed, night-hunting, cleanly, devourer of birds chickens mice moles squirrels fish beetles or fruit, less swift than his European cousin, whether



399

land transferred to America.



373

(125 Continued)

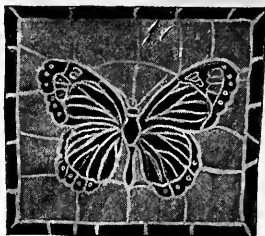
at its enemies, defies the farmer's efforts at its extermination.

Keystone. 119 1/4. Pennsylvania coming to be called the Keystone State from its geographical position upon the map, by newspapers in the nineteenth cen-



119 1/4

Battleship. 373. Heavy plates of steel rivetted together form the sides, water-tight compartments, gun rooms, turrets and decks, of the modern wood-fitted battleship, upon which the modern sailor, no longer concerned with tar ropes masts and sails, is drilled as a



385

mechanic and gunner. The mosaic shows a battleship at anchor near a city wharf.

The Butterfly. 385. Through one of the most marvelous changes in nature, sometimes lasting over winter, by way of egg laid upon a twig, voracious, leaf-eating, skin-molting caterpillar, pseudo-death as a grub mummiv wrapped in self-made coffin, long sleep and resurrection, the butterfly, cancelling in winged beauty the caterpillar's harm, emerges upon the lap of summer to outvie the fairest of her flowers.

The Muskrat. 370. (*Fiber zibethicus*.) The amphibious prolific muskrat, inhabiting lakes and streams, invading cultivated lands, threatening dams and canals, destroying the water lily and lotus where they had flourished before, defies man's efforts to dig him out and exterminate him, and increases rather than disappears before the same civilization which, in exterminating the blood-letting mink which had filled the water rats' galleries with blood in the past, has withdrawn from the life struggle the muskrat's worst enemy.



370



315

Casting Iron. 315. Blow a stream of air into a confined fire of coke or charcoal, piled upon lumps of iron ore mixed with pieces of lime stone. When the molten metal, beneath masses of floating slag, runs out a clay tap hole, ladle it into moulds made of stiff, fine-grained, ferrugineous (casting) sand, or let it run free by way of a long trough-shaped open sand furrow (the sow), into smaller side troughs (the pigs). Able to soften iron by heat and shape the soft spongy mass with a hammer, since the dawn of history or at the end of the Bronze Age, man, though long previously familiar with bronze casting, has only been able thus to melt the stubborn iron ore and cast it in moulds, since the 15th century.

Weasel. 401. (*Putorius noveboracensis*.) Sometimes turning all white in winter, brown-backed, keen-scented, night-hunting, wholesale destroyer and blood sucker of rats, mice, moles, frogs, birds and chickens.



401

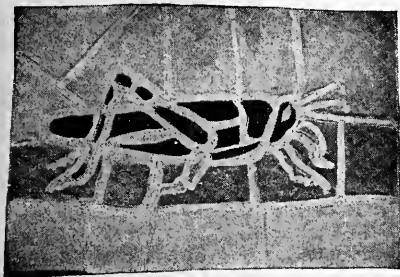
The Telegraph. 342. By means of "creepers," namely steel prongs strapped to his feet and legs, the workman, armed with a wire cutter, has ascended the smooth pole to splice a storm broken wire, and repair the mechanism of one of the greatest inventions of modern times. (Many original inven-

(342 Continued)



342

The Grasshopper. 95. Sweet as the song of the meadow lark or scent of new mown hay, charming the recollection of thousands of human minds aged in the toil of cities, rises the universal memory of an infant form, hatless and barefoot, chasing



95

the rival tribes quarrel, and the squaws take their part; the braves intervene, and then a desperate resulting battle strews the river shores, as at Durham, or fills the mound, as at Connewago, with skulls.

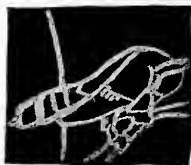
Oysters. 105. (*Ostrea virginiana*.) Ancient seaside heaps, "kitchen middens," of oyster and other shells, from Maine to Florida, and Alaska to California, prove that the Indians roasted and ate oysters for many centuries. Stewed, panned, roasted, raw, deviled, broiled, fried, steamed, boxed, or brazed, the American oyster, less highly flavored than its European cousin, raked from marine estuaries to be rapidly distributed by railroads, soon became the familiar staple of the city restaurant and barroom cook, and as stewed with milk, a national dish. Oysters were gluttonously eaten raw on wagers in the fifties, at country eating houses and old fashioned oyster suppers.

105

Inland lanes and roads paved with their shells (1908) prove an immense increase in their consumption.

tors 1747-1837. Many improving inventors 1837-1890. Systematized by Morse after 1837).

Blue Jay. 381. (*Cyanocitta cristata*.) Beautiful tyrannical alarmist, omnivorous flesh and vegetable eater, egg-sucking, nestling eating, oppressor of other birds, and appropriator of half-built nests, the blue jay, hunting apples, pears, beechnuts, acorns, insects, cocoons, barberries, blackberries, etc., with startling cries flashes quick gleams of ultramarine through the gray woods of autumn or the green leaves of summer.



381

the ever present grasshopper, who with immense fascinating leaps, wins the race on the soft grass or prickly stubble fields of summer. The "grasshopper war," an exterminating battle of an old Delaware and Susquehanna Valley myth, came, according to the farmer's wife's tale, from the overleaping by a grasshopper of a sinew boundary stretched between two Indian camps.

The chasing children of

Heckewaelder Preaching.

215. The Moravian missionary, minister of Christ's peace and brotherhood among Indians, venerable, noble, beloved, upholding a friendship for the red man, equal to and long outliving that proclaimed by Penn, here preaches to the Jenape after a common fashion, standing upon a stump in the partly cleared woods.



215

ling and easily made at home without turning lathe. Disused with the spinning wheel about 1835.

Skunk. 85. (*Mephitis putida*.)

With long fur richly painted in black white or brown, hiding by day in the wood pile or ruined cellar, the nocturnal chicken-killing skunk, celebrated and dreaded because of the pungent overpowering defensive liquor cast by it at its enemies, defies the farmer's efforts at its extermination.



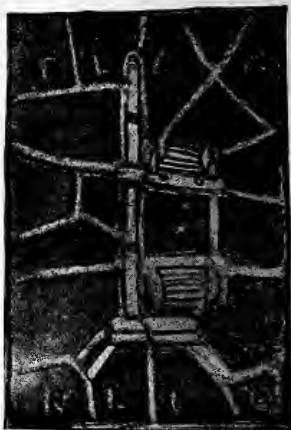
85.

fant form, hatless and bare-foot, chasing the ever present grasshopper, who with immense fascinating leaps, wins the race on the soft grass or prickly stubble fields of summer. The "grasshopper war," an exterminating battle of an old Delaware and Susquehanna myth, came according to the farmer's wife's tale, from the overleaping by a grasshopper of a sinew boundary stretched between two Indian camps. The chasing children

of the rival tribes quarrel, and the squaws take their part. The braves intervene, and then a desperate resulting battle strews the river shores, as at Durham, or fills the mound, as at Connewago, with skulls.

Oysters. III. (*Ostrea virginiana*.) Ancient seaside heaps "kitchen middens," of oyster and other shells, from Maine to Florida, and from Alaska to California, prove that Indians roasted and ate oysters for many centuries. Stewed, panned, roasted, raw, deviled, broiled, fried, steamed, boxed or brazed, the American oyster, less

Flax Reel. 108. From a standard set upon a tripod, four pegged arms turned horizontally to wind off flax thread into skeins from the spindle. Sometimes set upon a forked sap-



108

The Grasshopper. 82.

Sweet as the song of the meadow lark or scent of new mown hay, charming the recollection of thousands of human minds aged in the toil of cities, rises the universal memory of an in-



82

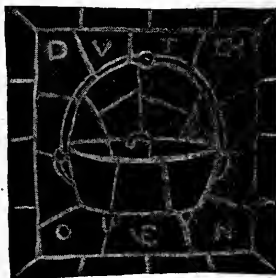
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111

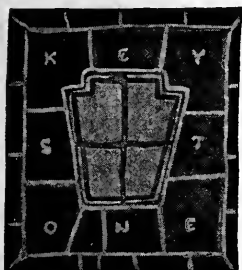
inches. Height about 9. Place in it the risen dough for bread, then set on the convex lid and bury the pot in the hot embers of the open fire. Lift on or off the coals by the hinged wrought iron handle, whose hooks slip in or out of the clasp holes against the rim. Discontinued with open fire cooking about 1830-40. Still used by western camping parties, though but a meagre substitute for the bake oven of brick or clay. A rather uncommon farmyard relic in 1897. Handles and lids generally lost or the latter used as watering troughs for chickens.

Dutch Oven. 112. A cast iron lidded pot, usual diameter about 20



112

Keystone. 139. Pennsylvania coming to be called the Keystone State from its geographical position upon the map, by newspapers in the nineteenth century, the pattern of a keystone was since used as an emblem of the state.



139

Pioneer Rifleman. 359. A marksman of deadly aim from continual shooting at Indians and animals, the Pennsylvanian pioneer, armed at first with a transatlantic gun, barreled with a spiral bore to make the flying leaden bullet rotate, (rifle of Edward Marshall the Indian walker, made 1737-'50 at Rothenburg Germany), began making his own "Lancaster" and "Kentucky" rifles

at Reading, Lancaster and elsewhere by the end of the 18th century. Though subject to speedy annihilation in a bayonet charge, and denied a place in European armies by Napoleon, organized bands of these deadly slow firing Indian fighters, with coon skin caps buckskin shirts and fringed leggings did great service in frontier battles, and at New Orleans in 1815, where the riflemen, lying behind cotton bales and supplied by boys with continually reloaded extra rifles, destroyed at a distance the British army, killed its general, and won the battle in a few minutes.



359

Squirrel. 140. (*Sciurus carolinensis*.) Having survived the enmity of the farmer, who shoots and eats the squirrel or imprisons him in a tin cage and treadmill, the animal finds peace in

(140 Continued)

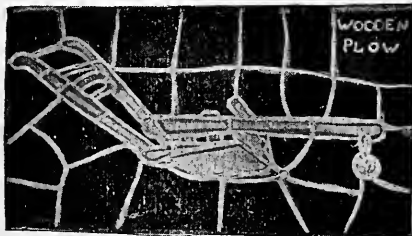
the city park and town grove, where children tame and feed him.



140

to tree upon winglike extensions of its leg skin.

Wooden Plough. 101. Home-made plough, ironed by country blacksmith, and set with a wooden mould board, probably universal in the Atlantic States before 1800. Sometimes protected with sheet iron or as on the eastern shore of Maryland, with bull-fish skin nailed to the



101

Penn's residence for about one year; capitol of the Province until about 1700; given to his daughter Letitia who sold it to William Eastman. Twice serving as an inn (Rising Sun and Wool Sack), and afterward neglected and nearly destroyed by modern city growth. In 1882 removed and re-erected at its present (1908) site in Fairmount Park.

Black Bear. 115. (*Ursus americanus*.) With dog and gun, man finds a bloody amusement in rapidly exterminating the honey loving, ant fish and root eating, vegetarian and carnivorous black bear. Glossy black, brown-cheeked, dog-fearing, harmless (unless when with cubs or in self defense), the tree-climbing hibernating animal, was revered, almost worshipped, yet hunted and eaten by Indians in the primeval forest. Close kin to the brown bear of Europe, the once abundant black bear in vain

Flying Squirrel. 114. (*Sciurus volans*.) Nocturnal, dwelling in large gnawed holes in dead trees old house cornices deserted garrets or summer houses, sometimes imprisoned in tin cages by the farmer's boy, the beautiful flying squirrel outvies in celebrity many larger animals, by flitting at night diagonally from tree

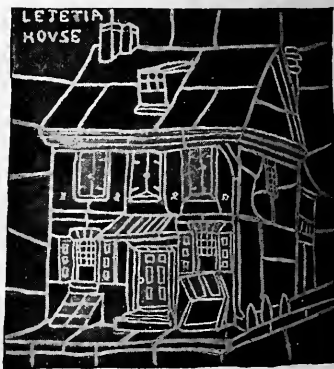


114

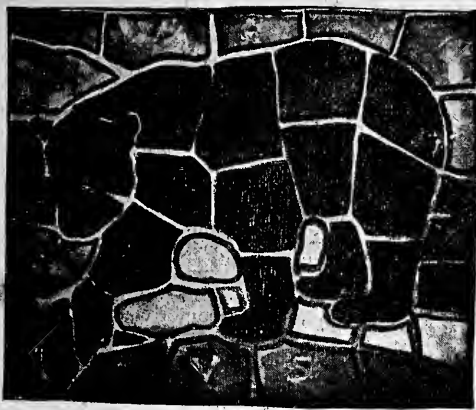
mould board to save wear. Often rehandled with a cow's horn. Generally superseded by iron mould boards about 1810.

Letitia House.

137. Small brick house with white painted wood facings, built by William Penn in 1683, in a garden between Front, Second and Market streets, and Black Horse Alley, Philadelphia.



137



115

near Peekskill on the Hudson, and there (1907) sometimes attached to a (now factory-made, previously home-constructed) treadmill, worked by a dog (the dog-churn).

Red-Headed Woodpecker. 138. (*Melanerpes erythrocephalus*.)

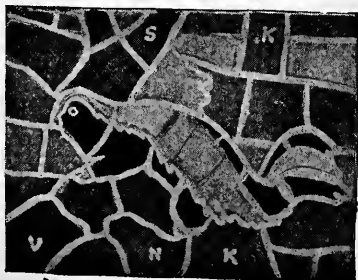
You must search among the painted birds of the tropics for a rival to this magnificent insect hunter, who startles the silent woods with sudden resonant drumming upon dead tree limbs, or, darting in red black and white through summer leafage, protests in his thrilling life, against the farmer who would shoot him because he eats cherries, the un-



138

taught boy who destroys him for fun, or the woman who wears his distorted skin or wings upon her hat.

Skunk. 142. (*Mephitis putida*.) With long fur richly painted in black white or brown, hiding by day in the wood pile or ruined cellar, the nocturnal chicken-killing



142

The Locomotive Engine. 107.

For ten centuries preceding the date 1820, no such revolutionary change in the habits of man through his equipment with labor-saving devices, has occurred, as between 1820 and the present time. More potently than electricity,

(115 Continued) retires to inaccessible places, to escape the relentless and untiring hatred of his human pursuer.

Churning Butter. 136.

The woman works a vertical wooden piston, set upon cruciform splashing arms, and projecting through a lid-hole in the barrel-shaped churn half-filled with cream. Used in Eastern Pennsylvania until about 1850. Still in use



136

(107 Continued)

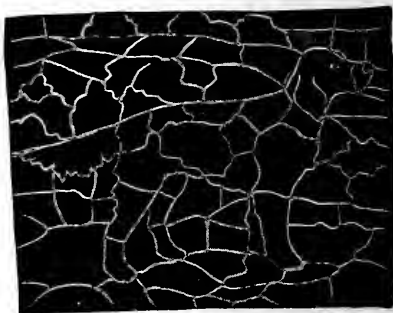


107

phia make (1902), heavier, stronger, and than its European rival.

gunpowder, printing, coal, iron or petroleum, the locomotive engine has probably worked to produce this result. With its new rapid transfer of men and merchandise, customs a thousand years old, tools, utensils, implements, things home and hand made, vanished as if by magic. Largest type of locomotive of Philadel-

The Dog. 148. (*Canis familiaris*.) When first domesticated by the North American Indian, or prehistoric old world savage, the wolf or jackal lost its ferocity to become the affectionate dog, an epoch was marked in the history of man. And the thinker may associate with the dog another epoch in man's higher evolution, when as now (1909) the human conscience strangely awakes, to enter upon a memorable struggle. Many unselfish champions of mercy and love, rejecting the alleged cure of their own diseases, arm themselves for a world wide conflict with thousands of modern doctors



148

and students, who proclaiming advantage to the human race, cut open (with or without pain deadening drugs), disembowel, inoculate with disease, (vivisection) the living dog to help their surgery or medicine, or illustrate facts (previously known or unknown) to their scholars. Friendly, fleet, intelligent, trained to a multitude of uses besides hunting birds and animals, carnivorous, clinging to filthy habits and food, often unselfish, faithful, devoted beyond compare, the dog has followed close upon the human wanderer from the darkness of prehistoric time. What more remarkable moment than when the highest human education, the loftiest Christianity, forgets its pride, and humbles its desires, to find inspiration in the friendship of a dog.



144

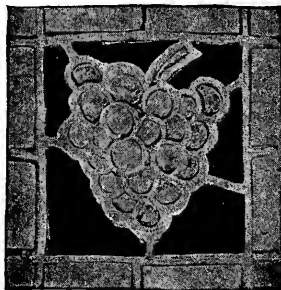
Opossum. 144. (*Didelphys virginiana*.) Sluggish, sleepy, helpless, death feigning, fruit insect and chicken eating, hunted of old and eaten with delight by the American slave and free, continually caught and killed by the farmer, the celebrated prolific American marsupial, ghastly in hair and skin, unknown in Europe, and related to the Australian kangaroo, continuing to rear about 36 young per year in three litters in its extraordinary breast pouch, survives its human enemy, and still harbors unsuspected close to the farmer's henroost and haystack, or in his hollow apple tree.



147

Man Using Frow. 147. With an L-shaped knife blade held upon a cylindrical section of white oak trunk set on a chopping block, the man splits with the grain, thin sections off the piece, by blows of a short large-headed wooden club. These shingles thus split, and afterwards pared where necessary with a draw knife, roofed early houses and log cabins. Homemade shingles split and used at Wormansville, Buckscounty, 1896.

Grapes. 149. The European grape having produced wine for eighteen centuries, trans-



149

planted to the garden of the Pennsylvanian farmer, has been generally neglected. Though remaining sweet and edible, so as to outrival the native fox and chicken grape, or flavor a sugared acid home made wine, it has deteriorated, whether by soil, climate or lack of skill; and in spite of extensive efforts in California, New Jersey and New York, etc., no longer (1908) produces for the American the ancient drink of his European ancestors.

The Loon. 150. (*Urinator imber.*) The remarkable bird walks



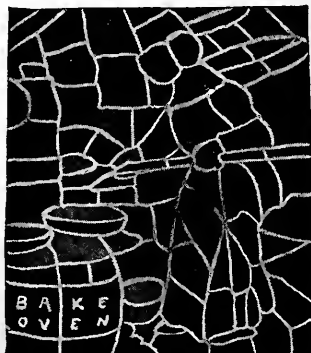
150

with difficulty, rises to fly at a long angle with great effort, but dives like the otter to outstrip and catch the darting fish. When the loon migrating to or from its northern nest, halts to rest upon inland water, the farmer rushes for his gun.

Woman Baking. 145. The brick fire chamber in a stone oven built against into or outside the house, and often opening into the kitchen fireplace, is heated with a wood fire. When the hot embers are raked out, and the oven cleaned with a damp swab, the bread loaves are pushed in or pulled out upon a

long-handled shovel of wood or iron (the peel). Apple peach pumpkin huckleberry mince squash and and other forms of the familiar American pie, were developed from English original types, in these ovens.

Snapping Turtle. 133. (*Chelydra serpentina.*) Ferocious, carnivorous, devourer of frogs tadpoles and young ducks, only half-protected by his under shell, always fighting in self-defense, most active of the turtle tribe in Pennsylvania, inhabiting the muddy bottom of mill ponds, the snapping turtle, grand trophy of the torch light fisherman and wandering boy, sometimes caught with red flannel



145

(133 Continued)

on a fish hook, is the origin of a renowned "snapper soup" popular in country restaurants.

Conestoga Wagon.

134. The immense ponderous schooner-shaped wagon of probable German descent, named from the site of its earliest make along the Conestoga Creek in Lancaster county, with homespun linen cover stretched on wooden bows, and drawn by four to



133

six walking horses, often equipped with bells, transported freight south of New England lines of sea and lake transport and across the Alleghenies, before railroads were built. In lighter form, a wagon of national type, celebrated as the "prairie schooner," it bore the American emigrant and his family "Westward Ho."

Reaping With the Sickle. 143. Lean forward and seizing a large bunch of wheat or rye with the left hand,



134

cut the stalks near the ground by drawing the keen serrated narrow sickle blade across them from left to right. Then, as the mosaic shows, you reap as your ancestors did from Egyptian times until about 1820, when, at the advent of the old European grain cradle, and Hainault scythe (dispensing with stalk grasping), and finally the reaping machine, the greatest craft of husbandry changed suddenly and forever.



143

Bat. 135. (*Vespertilio*.)

Marvelous, weird, night-seeing, alert after a day trance, hanging head downward on wing claws, in caves hollow trees open cellars or ruined barns, sometimes, for mother love, weighted on the wing with clinging brood, the fantastic bats enter the open window of the lamp lit bedroom, snuff the kitchen candle, chase twilight beetles over tree top and lawn, or as demons of the night breeze, tease the boy players of "kick-the-wicket," who followed them of old shouting as in the Maryland child's rhyme—



135

"Leather winged bat, fly under my hat
And I'll give you a ham of bacon."

Kittens. 384. Transplanted from Europe as an inheritance from savage human ancestors who had domesticated it probably before

(384 Continued)



384

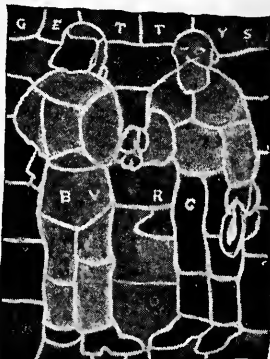
Egyptian times, everywhere familiar as a household pet, kept by man as a destroyer of rats and mice long before the Norway rat invaded England in the 16th century, or followed European discoverers to America, the cat vies with the dog in human popularity.

Reconciliation of North and South. 379.

The mosaic represents the reconciliation of two survivors of

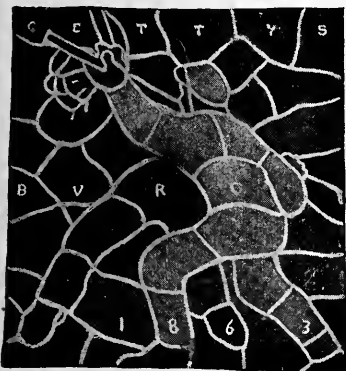
the Civil War, once soldier enemies, now farmers, meeting after thirty years to shake hands on their old battlefield at Gettysburg, upon the noted reunion of surviving veterans in 1903.

Gettysburg. 378. A struggle between citizens of the United States at



379

Gettysburg in 1863, decided against the continued inconsistent existence of negro slavery in the liberty asserting United States, and against the division of the Republic into two nations.



378

Stephen Collins Foster.

382. The mosaic shows the first musical bar of the song called "Old Folks at Home" often known as "The "Swansee River," inscribed on the roof of a riverside log cabin. The background is stamped with the initials S. C. F. standing for Stephen Collins Foster, most original song writer of the United States, born at Pittsburg in 1826, and principal originator of Anglo-African music. Author of "Old



382

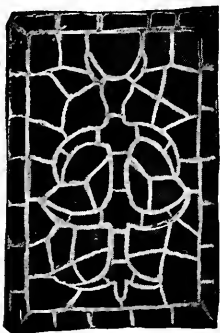
Kentucky Home," "Old Uncle Ned," "Carry Me Back to Old Virginia," "Hard Times," "Nelly Bly," "Old Dog Tray," etc. The music of Foster, better remembered than his name, outvies in inspiration to Americans, the reputation of many founders warriors and statesmen.

Shad. 373. (*Clupea sapidissima*.) Netted while



373

ascending in shoals eastern seaboard rivers in the spring to spawn, protected by law, lost in winter in the ocean's depth, the immensely prolific sensitive graceful shad, dying in captivity, or at the friction of nets, was fried in the long handled frying pan, broiled on the gridiron by the open fire of the old farm kitchen, or roasted on a plank by the bonfire of the Delaware River fisherman.



341

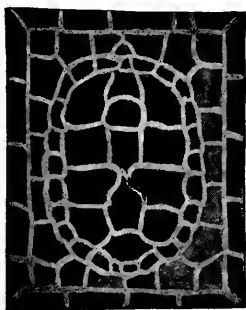
Drawing Water at the Well Sweep. 380.

By means of a balanced bucket bearing pole, weighted at the base and hinged upon a post, the woman, leaning against the wooden well curb, lowers the empty bucket, fastened upon a long stick, and lifts it again full from the well. Ancient apparatus in general use until 1840. Surviving (1909) in wilder mountain regions. Still common in 1907 near Cambridge, Maryland.



380

Turtle Carapace. 348.



348

Celebrated in white man's history and legend, venerated as an emblem of wisdom by the Indian, the sluggish unwieldy turtle, heavily armored above and below by carapace and plastron, resists without much effort the attack of many enemies; sometimes defying the tearing of eagle's beak and talons, as when, if the legend be true, a bird of prey high in air, killed the Greek poet, Aeschylus by dropping a tortoise upon his head.

Death of General Braddock. 400.

General Braddock fell at the defeat of his Colonial troops when openly charging ambushed French and Iroquois Indians, who shot their rifles from behind trees, at the battle of Great Meadows in 1756.

Shoeing the Horse. 391.

All horses in the new world, the wild prairie or panipas breeds Indian pony and Mexican mustang included, are of imported transatlantic stock, domesticated by old world savages in the stone age. The once abundant American horse, having perished in an unex-

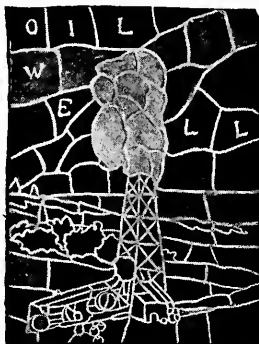


400

(391 Continued)

plained sudden manner, as his fossil bones show, in post-glacial times, was replaced by the European animal, chief historic transporter of man and merchandise, contributor of untold unthanked labor for many millenniums before steam, and of inestimable help in human progress. Free-hoofed for soft ground by nature, but shod with iron shoes for stony soil since the dawn of civilization.

Oil Well. 386. When the narrow bored pump hole, having become clogged at a great depth, is blasted by dropping a pointed iron weight (go-devil) upon a dynamite cartridge, the oil pressed upward by subterranean gas, bursts sky-



386

ward in vapor above the derrick. Petroleum was used by Indians as a medical lubricant, or burned for sport as an iridescent scum on Oil Creek, before its application in Western Pennsylvania as a world illuminant revolutionized all ancient lighting appliances. It had burned spontaneously at Baku on the Caspian Sea since prehistoric time, giving inspiration to the earliest Parsee fire-worshippers.

Rattlesnake. 374. (*Crotalus horridus*.) Less poisonous than the cobra of India, or the fer de lance of Martinique, devourer of small rodents, the deadly rattlesnake, where he sur-



374

vives in the Appalachians from New Hampshire to Florida, is justly dreaded by man. About four feet long, sluggish, coiling, rattling, reluctantly striking, the brown or blackish yellow diaper-striped snake was avoided and venerated by Indians and white men, and but very rarely conciliated by snake loving mountaineers, who dare to pick up the fanged reptile in their hands.

Sheep. 394. Unknown in America

before Columbus, domesticated by man in Europe at an unknown period in prehistoric time, the gentle timorous grass-eating wool-bearing sheep, as the principal origin of woven clothes, has been of inestimable importance to man since the dawn of history. Spanish (merino), and English breeds (Cotswold, Liecestershire, Southdown, etc.), were brought to the United States in the 16th century and later. Various mixed on the farm, and source of supply for housewife's wool wheel, the country loom, and farmer's homespun linsey-woolsey clothes, after the clearing of the forest.



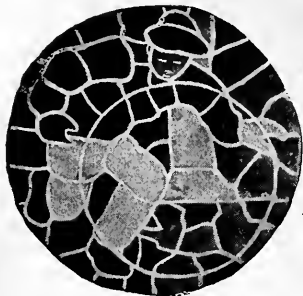
394

Boy Rolling Hoop. 393. Alternating his sport with games of marbles, the village rather than country boy, chases his rolling hoop (an



391

(393 Continued)



393

appears from the transactions of commerce after 1880 to be supplanted by the printed manuscript of the typewriter, developed from the inventions of Wheatstone and Foucault about 1855. Inked type dart against the surface of a revolving sheet of paper rapidly forming words, while the writer, as shown in the mosaic, plays with both hands upon the keyboard of the instrument.

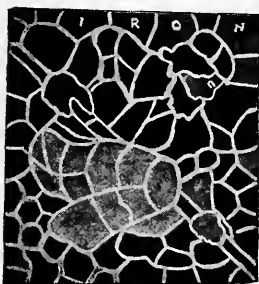
iron or wooden barrel hoop, beaten with a stick) in 1908, as he chased it in France in 1348 (according to an illuminated missal in the Bodleian Library of old Oxford). The ancient sport common (1908) in Britain, north and south Germany, Scandinavia, Italy and France.

Typewriter. 388. Human handwriting with a pen rapidly dis-



388

Iron Miner. 376. Iron the master metal, marking when utilized by man after bronze, an epoch in human history, is here as an ore dug with a crow bar by the miner, from its native vein as sometimes exposed upon the open hillside.

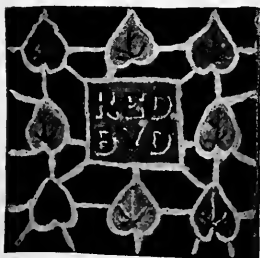


376

form of its celebrated representative the house cricket (*Grillus domesticus*), who finding nooks of winter shelter indoors, sings undismayed near the open hearth of the old kitchen.

Redbud. 392. (*Cercis canadensis*.) Where the southern redbud or

Judas tree grows wild in the Susquehanna woods stand beneath the yet leafless



392

boughs gleaming in crimson blossoms, and while the bees hum and the spring zephyr brings memories of southern forests, forget even the snowy shad bush, and the white vernal glory of the matchless dogwood.

Rabbit. 396. (*Lepus floridanus*.) With brown cinnamon and gray fur, and



387

(396 Continued)



396

wheat sheaf (agriculture), plow (agriculture), wreathed with Indian corn (agriculture), and lacking quarterings for iron or petroleum. The whole ill designed in realistic spirit, a misconceived picture, rather than a conventionalized pattern.

Turtle Carapace. 397.

Celebrated in white man's history and legend, venerated as an emblem of wisdom by the Indian, the sluggish unwieldy reptile, heavily armored above and below by carapace and plastron, resists without much effort the attack of many enemies; sometimes defying the tearing of eagle's beak and talons, as when, if the legend be true, a bird of prey high in air, killed the Greek poet Aeschylus by dropping a tortoise upon his head.



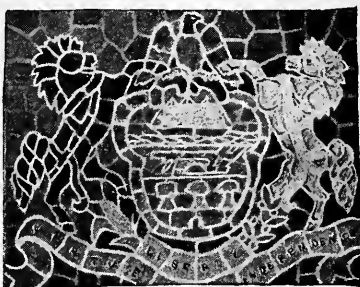
397

coasts. Deviled broiled fried hashed, dressed in many ways, it ranks like the terrapin oyster and canvasback duck as a boasted national dish.

white under tail, very prolific, subsisting on roots and vegetables, burrowing, crouching till almost touched, very fleet, doubling to escape dogs, the rabbit defies extermination in spite of gunners in season, minks weasels crows and hawks. Hard is the heart which unmoved to pity, sees the terrified rabbit crouching in clear view by log or weed stalk, while the dogs bark and race in distant circles.

The Arms of Pennsylvania.

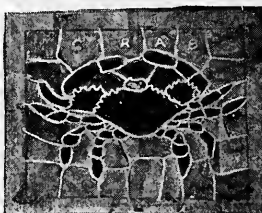
375. Two rampant horses support a shield emblazoned with ship (commerce),



375

Soft Shelled Crab. 398. (*Callinectes hastatus*.)

The maritime blue crab in its shell (hard shell), or having recently cast its shell in summer (soft shell), inhabits the muddy beaches of the Delaware Chesapeake and Atlantic tide water



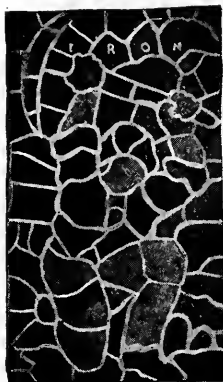
398



383

Baltimore Oriole. 383. (*Icterus galbula*.)

Gleaming black and orange through the summer boughs of hickory apple oak and maple, named after the Irish town Baltimore indirectly through the heraldic colors of Lord Baltimore founder of Maryland, destroyer of insects, brilliant musician, migrating in winter to Mexico, the magnificent "hanging bird," in nest building gladly seizes upon the strings rags and lint of the modern white American, minus which in the shadows



of the great forest, the oriole must have built his hanging pouchlike nest with greater trouble of vegetable fibre and twigs.

The Iron Miner. 377. Mighty medium of modern progress, iron the master metal, marking when utilized by man after bronze, an epoch in human history, is here dug by the miner with a pickaxe from its native vein.

Wild Cat. 152. (*Lynx rufus*.) Yellowish brown, short-tailed, with hair tufts on ears spotted with dark brown or black, scaring its prey with a wild scream, sleeping in hollow trees caves and rock shelters,

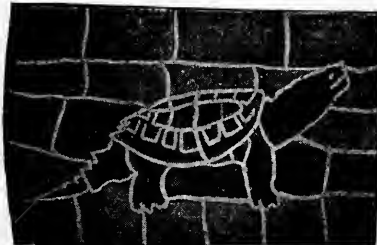
377

destroying young birds in the nest, mincing catnip, wallowing in strong scented herbs, stalking rabbits and grouse in the twilight of dawn or eve, unearthing mice or watching at squirrel holes, the wild cat springs from ambush or overhead bough upon his larger prey. This relative of the domestic cat lion tiger leopard and fossil American sabre-toothed smilo-



152

don, has been driven by his old enemy the Pennsylvanian farmer to the few remaining forest fastnesses of the Alleghenies.



172

muddy bottom of the mill-pond. Grand trophy of torch light fisherman and wandering boy, sometimes caught with red flannel on a fish hook, the fierce reptile is the origin of a renowned "snapper soup" popular in country restaurants.

Loon. 157. (*Urinator imber*.) The remarkable bird walks with difficulty, rises to fly at a long angle with great effort, but dives like the otter to outstrip and catch the darting fish. When migrating to or from its northern nest the loon halts to rest upon inland water, the farmer rushes for his gun.



157

Keystone. 158. Pennsylvania coming to be called the Keystone State from its geographical position upon the map by

(158 Continued)

newspapers in the nineteenth century, the pattern of a keystone was since used as an emblem of the state.

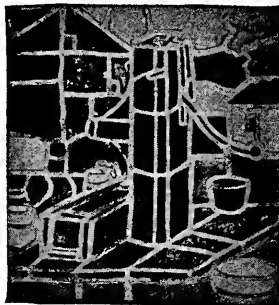
House Pump. 153. A stout log of sky-blue white oak, hand bored by means of a graduated series of long handled pod augers, plugged with a spout, and adjusted with a wrought iron handle. Having superseded at the farm well, the balanced pole, the ancient windlass, balanced buckets, and hooked staff, the homemade pump was generally replaced about 1870-'90 by the light factory-made gaudily painted hand pump of similar mechanism. Where the



158

old pump stands by the barn yard wall, the innocent boy, coaxed of a frosty morning to hunt *elbedritch*s (the furred goblin animal of the Pennsylvania German myth), is fastened by the tip of his steaming tongue to the frosty iron, which he has been induced to lick.

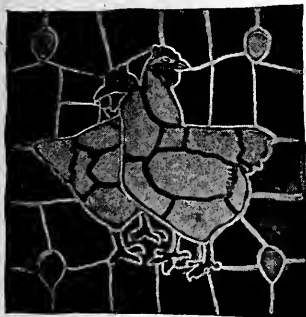
Chickens. 161. Descended from the wild chicken (*Gallus ferrugineus*) of India, and domesticated by Asiatic savages in unknown prehistoric time, the chicken, having long contributed to humanity's progress with eggs flesh



153

and feathers, has been artificially hatched by Arabs in Egypt since the middle ages, from eggs placed in earthen ovens, and daily turned. (the origin of the modern incubator).

House Fly. 175. (*Musca domestica*). The familiar, buzzing, warmth-loving, house-infesting, disease spreading insect, grown in filth garbage and horse manure, within a month, through egg, maggot, and fly, was probably introduced from Europe with the horse, by first settlers.



161

Opossum. 169. (*Didelphis virginiana*.) Sluggish, sleepy, helpless, death-feigning, fruit insect and chicken eating, hunted of old and eaten with delight by the southern American, slave and free. Often caught and killed by the north-



169



175

ern farmer, the celebrated prolific American marsupial, ghastly in hair and skin, unknown in Europe, is related to the Australian kangaroo. It continues to rear about 36 young per year in three

litters, in its extraordinary breast pouch, survives its human enemy, and still harbors unsuspected close to the farmer's henroost and haystack, or in his hollow apple tree.



163

less highly flavored than its European cousin, raked from marine estuaries to be rapidly distributed by railroads, soon became the familiar staple of the city restaurant and bar-room cook, and, stewed with milk, a national dish. Oysters were gluttonously eaten raw on wagers in the fifties at country eating houses and old fashioned oyster suppers. Inland lanes and roads paved with their shells (1908) prove an immense increase in their consumption.

German School. 155.

When the English language became



155

B. C., graceful, many colored, red-combed, courageous, the barnyard cock, everywhere familiar companion of man in his migrations, head of a race vitalizing humanity with eggs flesh and feathers, herald of dark and dawn, has been patterned in Christendom as a vane to mark the wind's change since its crow marked Peter's denial, hence in shape or name (German hahn, English cock) applied to the turning lids of ancient lamps, and modern valves or spigots. Since Homer's time, the bird has been as deeply interwoven with man's life literature and history as the horse or cow.

Shelling Corn. 163. The man throws the husked ears of maize into a hopper set against a log bristling with short iron spikes. This revolving as he turns a crank, tears off the grain and casts away the cob. Homemade about 1800.

Oysters. 156. (*Ostrea virginiana*.) Ancient seaside heaps "kitchen middens," of oyster and other shells, from Maine to Florida, and from Alaska to California, prove that Indians roasted and ate oysters for many centuries. Stewed, panned, roasted, deviled, broiled, fried, steamed, boxed, or brazed, the American oyster,



156

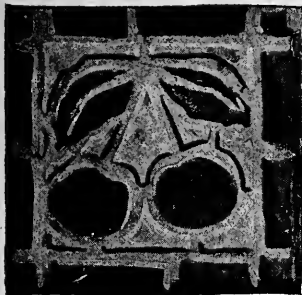
compulsory in Pennsylvanian public schools in 1854, several old customs disappeared in the German speaking districts, such as the teaching of music by ancient notation inscribed in chalk upon the ceiling beams, instruction in illuminated writing (Fraktur), or the punishment of children with the box brille, or leather horned (goats) spectacles. Yet the children taught in English, still (in 1908) play at recess in German.

Chicken Cock. 154.

Domesticated by Eastern Asiatics from the jungle fowl (*Gallus ferrugineus*) more than a millenium



154



174

vania degenerating in flavor, it has not failed in the magnificence of its white blossoms, which gladdening the road sides when the meadow lark sings his spring song, only yield in beauty to those which the Japanese wonder at on April seventh.

Type Setter. 164. The greater needs of knowledge justly destroyed a magnificent art, when printing, discovered about 1450, whether by Faust and Guttenburg, or by others, (though despised by the bibliophiles of the 16th century, such as Cardinal Bembo who would not have a printed book in his library), superseded book making by hand. Henceforth the art, revolutionizing all human knowledge, of assembling block letters into words and sentences, clamping them together to ink them and press them on paper, continued with little change until immensely facilitated in recent times through improvements upon many previous machines, by the invention (Lanston and Mergenthaler 1884), of casting the type from molten metal, while assembling them in immediate



164

response to a finger touch upon a key board like that of a typewriter.

Barrack. 160. A movable roof clasping four posts, pried up or let down upon iron pegs at the four corners, covers the hay stack. Common 1908 in Pennsylvania. Almost unknown in New England.



160

Moth. 162. (*Actias luna.*) Member of an immense prolific world-spread family, whether harmless to man or destructive of his food and clothes, transformed like the butterfly through marvelous changes of life death and resurrection, the nocturnal moth, hidden by day, becomes a



162

household wonder of a summer night, as lured often to death by lamp glare through the open window, he flits ghost-like in velvet splendor to rest with wings spread flat upon the window sill or curtain.

Penn's Seal of Pennsylvania. 197. Three ears of Indian corn dividing bunches of grapes, surrounded by the noble words TRUTH PEACE LOVE AND PLENTY, and encircled with flowers, symbolized the Christian ideals of George Fox and William Penn, which for a short time reflected a world-wide glory and promise upon the young commonwealth, and delighted the philosophers and philanthropists of the age.



197

of field mice and moles, never of birds chickens and pigeons, hence a help to the agriculturist, yet ruthlessly killed by man in boyish curiosity misguided sport woman's vanity or farmer's ignorance.

The Grasshopper. 176. Sweet as the song of the meadow lark or scent of new mown hay, charming the recollection of thousands of human minds aged in the toil of cities, rises the universal memory of an infant form, hatless and barefoot, chasing



176

over-leaping by a grasshopper of a sinew boundary stretched between two Indian camps. The chasing children of the rival tribes quarrel and the squaws take their part; the braves intervene, and then a desperate resulting battle strews the river shores, as at Durham, or fills the mound as at Connewago, with skulls.

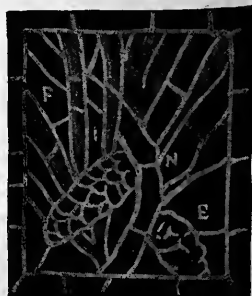
The Pine. 167. Sawed for boards hard or soft, yellow or white, or scored for exuding resin, origin of

Barn Owl. 141. (*Strix prat-incola.*) A very conspicuous yellow-brown owl staring blinking and bowing, when rarely seen in hollow tree deserted garret belfry or ruined barn hiding from the daylight. Destroyer



141

the ever present grasshopper, who with immense fascinating leaps wins the race on the soft grass or prickly stubble fields of summer. The "grasshopper war," an exterminating battle celebrated in an old Delaware and Susquehanna myth, came, according to the farmer's wife's tale, from the



167

pitch, the pine tree covers the northern hills and southern swamps. Notable in various forms, but most distinctive as the beautiful white pine (*Pinus strobus*), rivaling the cedar of Lebanon or the Deodar of India with its bare winglike limbs feathered only at the ends. Cut with the axe or movable saw, and floated down the stream in the form of trimmed logs, the white pine seems to approach extermination in Pennsylvania.

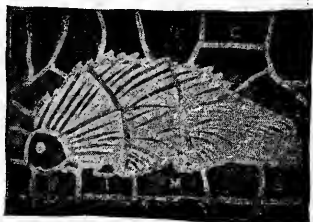


Cricket. 166. The familiar black insect family, proclaiming in late August the wane of summer, by the tinkling of rubbed wings, is greatly beloved in the form of its celebrated representative the house cricket (*Grillus domesticus*), who finding nooks of winter shelter indoors sang undismayed near the open hearth of the old kitchen.

166

barbed bristles destructive to the tongue and mouth of wolf or wild cat, the porcupine defends itself against ferocious enemies, far exceeding it in strength. Tree climbing, greedy of salt, feeding upon the inner bark of elm, linden and hemlock trees, sometimes gnawing the bones of cave-buried animals for food, the non-hibernating animal who nests in a hollow tree, was hunted by Indians for open fire roasting and for its quills valued as decorations for belt pouch and moccasin.

Porcupine. 165. (*Erethizon dorsatus*.) Rolled into a ball of poisonous



165

Skillet. 168. A large thin cup of hammered iron with long handle, is set upon its three legs in the hot embers of the old open kitchen fire. Stew in it meat or vegetables or baby's pap in water or milk. Generally disused with open fire cooking about 1840.



168

from blinds, retrieved when dying in the water by so called Chesapeake Bay dogs (bred from a Labrador original in 1807), courting death or danger whenever, in season, he lights for food or rest on pond river or bay, the wild duck out-classes in the typical form of the celery fed canvasback, all lauded products of the American kitchen.

Wild Duck. 171. Everywhere pursued by sportsmen, represented by many species whether nesting in Pennsylvania or the far north; migrating at railroad speed high in air in Y-shaped flocks, lured by wooden decoys, stalked



171

Blast Furnace. 178. An iron tower, pumping air and shooting flames, solves the problem long unsolved, of melting masses of iron ore mixed with coke and lime stone (smelting), or remelting the product for casting. Until the middle ages, the smith, thus able from unknown antiquity to melt tin mixed with copper

(178 Continued)



178

unknown in Australia and tropical Africa, ennobles the forests of Europe Asia and America in the north temperate zone.

Stagecoach. 183. The 18th century Americanized English stagecoach, of generally square low form in Pennsylvania, or egg-shaped with side doors boot and top seats, since about 1800 of New England make, generally painted yellow, and swung



183

inscription WILLIAM PENN PROPRIETOR AND GOVERNOR OF PENNSYLVANIA.

The Elm. 187. (*Ulmus americana*.) Less conspicuous and beloved for village shade than in New England, the white, American, or water elm of Pennsylvania, often vase-shaped in the outline of its plumed branches, loves water courses, and escapes the barbarism of Pennsylvania German village tree-topping, in moist woods. The most noted tree of its kind in Pennsylvania, venerated as shading the

(bronze), and cast it in moulds, could only soften, not melt, the iron mass of more or less pure ore, and hammer (forge) it into shape.

The Oak. 170. (*Quercus*.) Long lived, colossal, durable, highly valued for wood bark and sawdust, represented by a multitude of varieties as the red, black, swamp, willow, chestnut, and pin oak, or as the familiar ashen-barked white oak, frequently marking the land boundaries in old deeds, the oak, though



170

on leather straps, became celebrated in the sixties on the Deadwood, and other overland stage routes of California and the far west. Surviving (1900) in remote corners of New England.

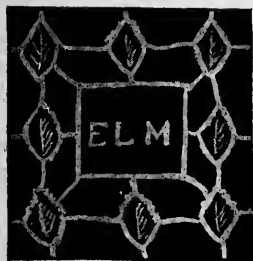
Penn's Seal of Pennsylvania.

182. A shield with the arms of William Penn against a background adorned with scrolls and inscribed with the words MERCY JUSTICE, is bordered by the circular



182

(187 Continued)



187

summer with his lively "bob white" note. How did the now meadow-loving bird subsist in the earlier days of the great meadowless forests?

John Fitch's Steamboat. 189.

The mosaic shows John Fitch experimenting in 1785 with his model steamboat on a pond near Hartsville in Bucks county. Boats having been propelled by crank paddle wheels turned by men or oxen since Roman times, and



189

lin and a committee. Symington having practically applied Watt's engine to a towing steamer on the Clyde Canal in 1802, was condemned and discouraged by the canal company. Robert Fulton after being condemned by Napoleon's committee in 1803 at Paris, when proposing an invasion of England by steamboat, succeeded practically in applying Watt's engine to his paddle boat, the Clermont, (1807) on the Hudson, seventeen years after Fitch's oared steamboat (1790) had carried passengers from Philadelphia to Bristol, and nine years after the despairing suicide of Fitch at Bardstown Kentucky in 1798.

Cherries. 193. (*Prunus cerasus*.) Rival of the strawberry, beloved of boys and birds, associated with the flavor of cherry bounce and pie, the delicious European fruit in its best known forms of pie, oxheart, or black cherry, when freshly imported and grown by the log cabin of the

celebrated treaty of Penn with the Indians at Kensington the north suburb of Philadelphia, in 1682, and protected from firewood hunters by the British General Simcoe's sentry in the Revolution, blew down in 1810 at an age of 283 years.

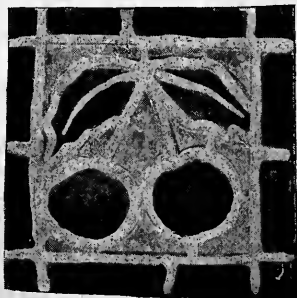
Quail. 177. (*Colinus virginianus*.)

Prolific, ground-nesting, nonmigratory, gathering in winter coveys, preserved by game laws, rising for the sportsman with explosive whirring of wings, the quail cheers



177

several attempts having been made to move boats with imperfect steam engines (Blasco de Gary, Barcelona 1543, Dennis Papin, Cassel 1707, De Juffroy, Lyons 1783), the finished practical steamboat resulted from several attempts at the end of the 18th century to apply the newly invented steam engine of Watt to the propulsion of water vehicles. Rumsey, Virginia 1786, tried propulsion by water jets. After several experiments in steam propulsion by oar and paddle wheels between 1785 and '90, and a screw propeller in 1796, John Fitch's idea was condemned by Frank-



193

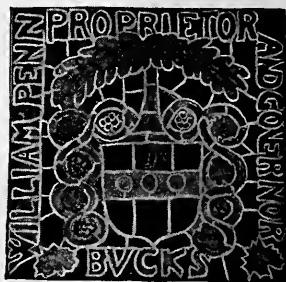
pioneer, may have been seen by the Indian before his expulsion from Pennsylvania. The Pennsylvanian must thank the horticulture of his European ancestors for this fair fruit of early summer, brought to Europe by Lucullus the Roman epicure, from Cerasus of Asiatic Pontus, to be cultivated for centuries in France England and Germany; and which if in Pennsylvania degenerating in flavor, has not failed in the magnificence of its white blossoms. These gladden the road sides when the meadow lark sings his spring song, and only yield in beauty to those which the Japanese wonder at on April seventh.



192

master in the matchless gift of flight, the short-tailed long-winged dusky chimney swallow (properly a swift) must have ceased gluing his nest of twigs to the walls of caves and hollow trees, and resorted to the previously unknown farm house chimneys about 1720.

Penn's Seal of Bucks County. 211. A shield with three balls the arms of Penn, overshadowed by a tree, and inclosed by a leafy grapevine, is surrounded with the legend WILLIAM PENN PROPRIETOR AND GOVERNOR BUCKS.



211

Lost and forgotten until rediscovered stamped in wax upon an old deed in the Court House at Doylestown.

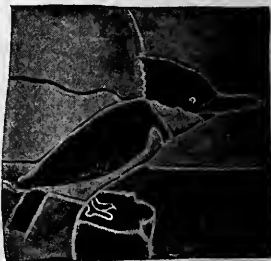


331

Robin. 331. (*Merula migratoria*.) A few boys in the year 1908 begin to feel that when on the fairest morn of May, the redbreast sings among the apple blossoms, the sight and sound are worth all the cherries the bird may afterwards eat. But an older human generation had to be influenced to cease robin killing by opening the insect-filled stomach of the songster to reassure that of the man. Robins eat insects, and insects eat fruit, therefore robins

help man to eat more fruit.

The Kingfisher. 420. (*Ceryle alcyon*.) The man with country boyhood, who learned to swim where the still water runs deep in the "horse hole," or by the roaring breast of the old mill dam, can never forget the echoing trumpet of the kingfisher, as the restless big headed black collared bird, flashing, diving, perching, sets going the wild echoes of woods air and water.



Bullfrog. 415. (*Rana catesbiana*.) Prolific, laying thousands of eggs in warm water, which pass from tadpole to frog in early summer days, making summer night echo with his deep bellowing, feeding

420

(415 Continued)

upon insects snails and reptiles, the bullfrog has rather increased than diminished in numbers since the destruction of the great forest.

Indian Carving. 419. One of the series of carvings referring to animals birds and reptiles, possibly a panther, pecked with sharp stones by Indians upon the side of a boulder, known as Little Indian Rock, at Safe Harbor



415

on the Susquehanna.

Indian Rock Carvings. 410.

The mosaic shows a few of the scattered figures of men animals and bird tracks, which, together with forms of reptiles and demonic symbols, were made probably



419

by Susquehannock, Delaware or Iroquois Indians, by pecking with hard sharp stones on the face of three large water-worn boulders in mid-Susquehanna at Safe Harbor. The grinding of driftwood in freshets slowly erases these weird symbols of a vanished race placed in the midst of roaring and dangerous rapids.



410

Song Sparrow. 418.

(*Melospiza fasciata*.) Below the ripples where the mill stream lingers by bridge or eddy, and where the jet black water beetles dart upon



418

the odoriferous pool, the song sparrow, seizing a branch of hazel, or topmost fresh-leaved spray of willow, outvieing all his kindred, stirs the heart with his sweetest keynote of spring.

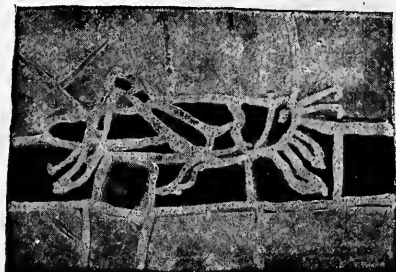


414

Eel. 414. (*Anguilla vulgaris*.) Living in water, burrowing in submarine mud, or traversing grass fields, covered with a green scaleless skin, the slippery eel, defying the boy's hand

clutch, bites at the flannel wrapped string of the fisherman "bobbing for eels," seizes the baited strings floated over night on shingles in the mill-dam, or, twisted upon the boy's fishing line, rises from the "horse hole" instead of the expected catfish.

The Grasshopper. 417. Sweet as the song of the meadow lark, or scent of new mown hay, charming the recollection of thousands of human minds aged in the toil of cities, rises the universal memory of an infant form, hatless and barefoot, chasing the ever present grasshopper, who with immense-fascinating leaps wins the race on the soft grass or prickly stubble fields of summer. The "grasshopper war," an exterminating battle of an old Delaware and Susquehanna Valley myth, came, according to the farmer's wife's tale, from the over-leaping by a grasshopper of



417

a sinew boundary stretched between two Indian camps. The chasing children of the rival tribes quarrel, and the squaws take their part, followed by the braves, till a desperate resulting battle strews the river shores, as at Durham, or fills the mound, as at Connewago, with skulls.

Indian Turtle. 413. One of nearly two hundred carvings of birds, animals, their tracks and reptiles, pecked with sharp stones by Indians in precolumbian times, against the side of Little Indian Rock, in the Susquehanna rapids at Safe Harbor. The turtle is represented with extended legs, as used for the Totemic badge of one of the three clans of the Lenni Lenape, or Delaware Indians.



413

Weasel. 408. (*Putorius noveboracensis*.) Sometimes turning all white in winter, brown-backed, keen-scented, night-hunting, wholesale destroyer and blood-sucker of rats mice frogs birds and chickens.



408

Rabbit. 403. (*Lepus floridanus*.) With brown cinnamon and grey fur, and white under



403

tail, very prolific, subsisting on roots and vegetables, burrowing, crouching till almost touched, very fleet, doubling to escape dogs, the rabbit defies extermination in spite of gunners in season, minks weasels crows and hawks. Hard is the heart, which, unmoved to pity, sees the trembling rabbit crouching by a log or weed stalk, while the dogs bark and race in distant circles.

Rattlesnake. 404. (*Crotalus horridus*.) Less poisonous than the cobra of India, or the fer de lance of Martinique,

(404 Continued)

devourer of small rodents, the deadly rattlesnake, where he survives in the Appalachians from New Hampshire to Florida, is justly dreaded by man. About four feet long, sluggish, coiling, rattling, reluctantly striking, the brown or blackish yellow diaper-striped snake, was avoided and venerated by Indians and white men, and but very rarely conciliated by snake loving mountaineers, who dare to pick up the fanged reptile in their hands.

404

Indian Rock Carving.

409. One of nearly 200 other figures, probably an elk, pecked with sharp stones by Indians, against the sides of three boulders known as Little Indian Rock, Big Indian Rock, and a third unnamed stone, in the Susquehanna rapids at Safe Harbor.



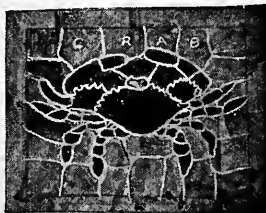
409

Mole. 405. (*Scalops aquaticus*.) Devourer not of roots or plants, but of earth worms, with gimlet nose, almost invisible min-



405

ute eyes, glossy silver grey fur, and powerful hairless clawed hands, the mole wedges and delves a little tunnel close under the summer sod, or deeper under frost, where his heaps of excavated earth rise to the surface to mark his work. Not where the truckman grumbles at young vegetable roots dried by the uplift of these undermining tunnels, nor where the man with the lawn mower and rake artificializes nature in village or suburb, but



406

where by the old "barn bridge" generations of geese and sheep have pastured upon the venerable sod, may the observer mark with pleasure, ramifying lines of darker green shadows, penciled upon the turf, tracing the upswelling vaults of the moles' galleries that settle back after a rain.

Soft Shelled Crab. 406. (*Callinectes hastatus*.) The maritime blue crab in its shell (hard shell), or having recently cast its shell in summer (soft shell), inhabits the muddy beaches of the Delaware Chesapeake and Atlantic tide water coasts. Deviled, broiled, fried, hashed, dressed in many ways, it ranks, like the terrapin oyster and canvas-back duck as a boasted national dish.



Indian Rock Carving. 411. One of the animal figures pecked by

Indians by pounding with sharp stones, against the smooth freshet-worn eastern side of a large boulder, known as Big Indian Rock, in the middle of the rapids of the Susquehanna at Safe Harbor.

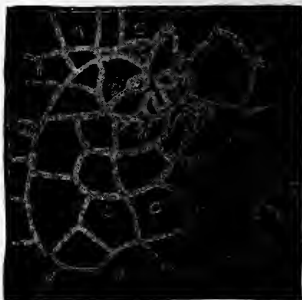
Box Tortoise. 407. (*Cistudo carolina.*) Celebrated in white man's story and legend, venerated as an emblem of wisdom by the



407

The Raccoon. 412. (*Procyon lotor.*) Cousin to the bear, hibernating in winter, feeding on shellfish mussels birds turtle eggs insects nuts fruits frogs and corn, soaking its food in water, this gray-brown animal with white-striped tail, dwelling in trees, hunting at night, and a good swimmer, is easily tamable as a pet by man, who has not exterminated him in Pennsylvania.

Indian Panther. 416. One of the animal figures, probably a panther, pecked by Indians by pounding with sharp stones against the smooth, freshet-worn, eastern side of a large boulder, known as Big Indian



412

Rock, in the middle of the rapids of the Susquehanna at Safe Harbor.



416

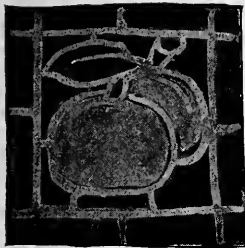
on open fires, the white man digs the hibernating red-bellied terrapin from the winter mud of fresh water streams, and, throwing him alive into boiling water, cleans cooks and eats him, eggs and all. Outranking for man's food, all national dishes, save the canvasback duck, the reptile is threatened with extermination in Pennsylvania, where he is easily confused with the yet more esteemed salt water terrapin (*Malacoclemmys palustris*). When the meat of the latter sells at from five to seven dollars per quart in Philadelphia, the vendor may stir in fifty to seventy per cent. of the bones flesh and eggs of the

**Potter Terra-
pin. 330.** (*Pseudemys rugosa.*) Having learned to eat tortoises in general from the Indian, who continually roasted them



330

"potter," whereupon few epicures can detect the cheat.

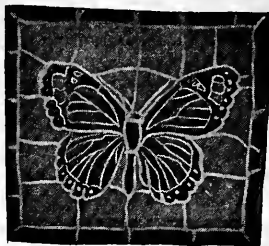


93

skin-molting caterpillar, pseudo-death as a grub-mummy wrapped in self-made coffin, long sleep and gorgeous resurrection, the sun-loving, honey-seeking butterfly, cancelling in winged beauty the caterpillar's harm, emerges upon the lap of summer, to outvie the fairest of her flowers.

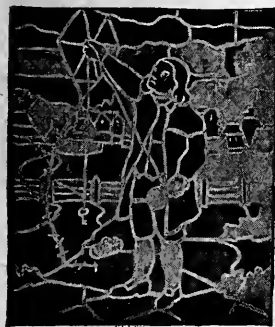
Apples. 93. (*Malus*.) Originally produced in Persia, the apple of the north temperate zone, now Americanized, may well contest its claim to be the greatest of the world's fruits, with the orange of the tropics.

The Butterfly. 184. Through one of the most marvelous changes in nature, sometimes lasting over winter, by way of egg laid upon a twig, voracious leaf-eating,



184

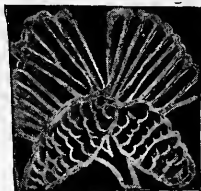
Franklin and the Kite. 180. Experimenting with electricity during a thunder storm, in the fields near Phila-



180

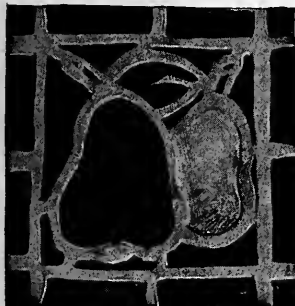
delphia in June 1752, Franklin drew an electric spark down a kite string attached to a key. A world-celebrated experiment, suggesting lightning rods, and foreshadowing the telegraph.

The Pine. 194. Represented by about 39 related species in the United States, shallow rooted, evergreen, highly valued for its wood, distilled for turpentine and pitch, darkening the Rocky mountain slopes or sandy seacoast, whispering in varied æolian tones, and as the white pine (*Pinus strobus*), rivaling in beauty the cedar of Lebanon or the Deodar of India, the tree in the form of the white pine rapidly destroyed by



194

axe and saw, awaits its last chance of preservation, as a tree kept for ornament.

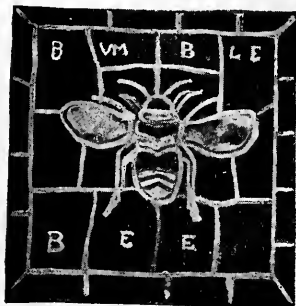


198

Pears. 198. (*Pyrus communis*.) Rival of the apple, and perhaps surpassing the peach and apricot, unknown in prehistoric America, cultivated from the large wild native tree of Europe and Asia, dwarfed by grafting on the quince, the transatlantic pear has been a garden favorite since the days of Pliny and Virgil. Highly perfected in France and the Netherlands, under glass or upon trellises, it has been generally neglected in Pennsylvania, where it yet excels as the sweet yellow Bartlett, or the remarkable aromatic and unique Seckel. The latter, probably the most original fruit ever produced in the United States, originated in a pear tree, grown by

chance before 1800 close within the confluence of the Delaware and Schuylkill Rivers. Brought to the world's attention by the land owner Lawrence Seckel about 1800. Blew down in 1904.

Bumble Bee. 159. (*Bombus vagans*.) Indigenous to America. Making honey-lined nests in small colonies underground, and



159

when attacked by boys slashing shingle paddles bored with holes or leafy branches, defending its home to the death. Fertilizing flowers, carrying honey and wax as it hums in the sunbeams, buzzing for liberty against glass windows, or boring tunnels in the wood of old window sills, the American bee, undomesticated and unhived, like his honey-producing cousin imported from Europe, remains wild to vie with the butterfly, locust and dragon-fly as one of the chief delights of summer's fairest days.

The Blue Jay. 195. (*Cyanocitta cristata*.) The trumpet cry of the blue jay startles the quiet woods,



195

Beaver. 24. (*Castor canadensis*.) While the prolific subterranean muskrat, delivered



24

from his terrible enemy the mink, multiplies in the midst of civilization, the sensitive beaver instantly shrinks from contact with the human invader, who has almost exterminated him in Pennsylvania. The story of his matchless skill becomes a half-forgotten school boy's fable, and common knowledge no longer testifies to the fact that the animal resembling an enormous heavy tailed muskrat, gnaws down trees so as to lock them across streams, thereby forming driftwood dams with sufficient water for his island village.

Felling the Forest. 191. Neither steam car trolley automobile coal or iron

mine oil or gas well probably worked the terrestrial change, suddenly produced, when the white colonist, with resounding blows of the long bitted axes of his ancestors, first dissipated the immemorial tree shade of the great forest. As the ancient red American retired or perished, houses cities and villages rose. Then the chimney swallow nested in its first chimney, the purple martin in its first man-made toyhouse, and the wren in a man prepared calabash. The quail and lark left the forest for open fields of man-planted grass. The crow first robbed the farmer's corn, the prolific muskrat, liberated by farmer's trap from his mink enemy, overpopulated the banks of mill



191

ponds, the housefly first buzzed in the log horse stable, and the European house rat overran the region, while the watercress of the old world invaded springs newly sunlit, and a hundred new European flowers sprang up by freshly cleared roads.

Wild Turkey. 181. (*Meleagris gallopavo*.) The wild turkey approaches extermination in the Eastern United States, by modern North Americans who have sought to domesticate no wild native creature. In the closely related form of its Mexican cousin, origin of our farmyard Christmas bird, it was domesticated by prehistoric New Mexican cliff dwellers and Aztecs, and went to Europe with the Spaniards. Bred in the farmyards of Italy; England, Germany and France, and illustrated in the paintings of Bassano in the 16th century, the turkey, called "welsch hahn" and "indianer" in Germany, "dandon" in France, and miscalled after the Sultan's country in the land of its birth, came back to the new world by way of the old.

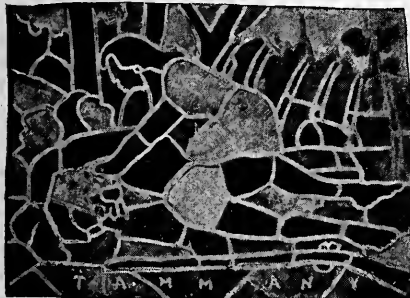


181

Oak Leaves. 196. (*Quercus*.) Long lived, colossal, durable, with color-producing bark, and sawdust highly valued by the carpenter. The slow growing oak, though unknown in Australia and tropical Africa, with various Ameri-



196



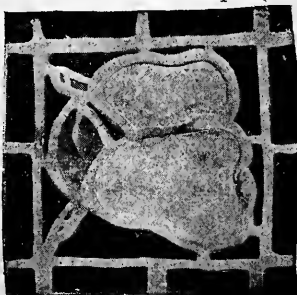
185

ware) Indians, (deposed in 1718 and succeeded by Chief Allumpees) according to local tradition, committed suicide on the banks of Neshaminy Creek about 1750, and was buried there upon territory which he himself had sold to Penn in 1683. A political society in New York adopted his name.

Pears. 192. (*Pyrus communis*.) Rival of the apple, and perhaps surpassing the peach and apricot, unknown in prehistoric America, cultivated from the large

can forms as the black, red, pin, white and swamp oak, ennobles the forests of Asia, Europe and America in the north temperate zone. The familiar ashen-barked white oak was the frequently named land mark in old deeds.

The Death of Tammany. 185. A very old Indian said to be the celebrated Tammanend, head chief so-named of the Lenni Lenape (Dela-



192

Right Corridor.

wild native tree of Europe and Asia, dwarfed by grafting on the quince, the transatlantic pear has been a garden favorite since the days of Pliny and Virgil. Highly perfected in France and the Netherlands, under glass or upon trellises, it has been generally neglected in Pennsylvania, where it yet excels as the sweet yellow Bartlett, or the remarkable aromatic and unique Seckel. The latter probably the most original fruit ever produced in the United States, originated in a pear tree grown by chance before 1800, close within the confluence of the Delaware and Schuylkill Rivers. Brought to the world's attention by the land owner Lawrence Seckel, about 1800. Bore fruit in 1885. It blew down in 1904.



188

reaping machines, lacking only the transverse knives. Described as for reaping wheat or rye when drawn by oxen, by Pliny. Surviving in Germany and probably France through the middle ages. Brought to America and used among Pennsylvania Germans until 1840.

Seal of Philadelphia 1701.

200. A shield quartered with figures



200

of clasped human hands scales a wheat sheaf and a ship, is bordered by the circular inscription SEAL OF THE CITY OF PHILADELPHIA 1701.

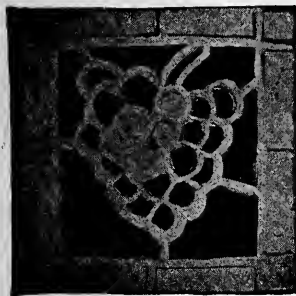


214

Wolf. 205. (*Canis occidentalis*.) Hunting in winter packs, running down foxes and smaller animals, or destroying the larger disabled elk or moose, howling, burrowing, always hungry, tamed by savages, and part ancestor of the friendly dog, the American gray wolf, devourer of sick bison, bison calves and domestic cattle, has been



205



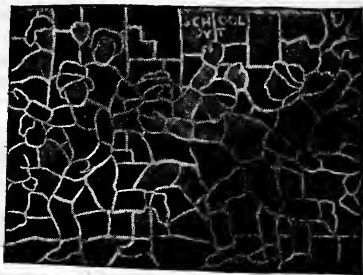
222

more easily driven off and exterminated than his fierce cousin of northern Europe.

Grapes. 222. The European grape, having produced wine for eighteen centuries, was transplanted to the garden of the Pennsylvanian farmer and generally neglected. Though remaining sweet and edible, so as to outrival the native fox and chicken grape, or flavor a home-brewed sugared acid wine, whether deteriorated by soil climate or lack of skill, in spite of extensive efforts in California New Jersey New York etc., the grape no

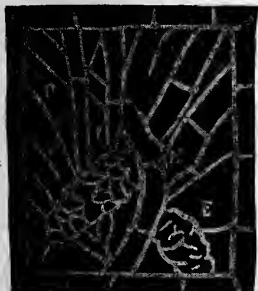
longer (1908), produces for the American the ancient drink of his European ancestors.

School Out. 210. With the inspiring hubbub that Eugene Aram heard, and less loud in country than in city, the pent up boys and girls, let loose from school recess, play leap frog, tag, prisoner's base, marbles, tipcat, catch ball, and jump rope, dig the gutter sand, mark play houses with rows of stones and flags of chicken



210

feathers, or garnish the trunks of trees with wild flowers.



226

The Pine. 226. Sawed for boards, hard or soft, white or yellow, origin of pitch, scored for exuding resin, the pine tree covers the northern hills and southern swamps. In the distinctive form of the beautiful white pine (*Pinus strobus*), rivalling the cedar of Lebanon or the Deodar of India, with its bare winglike limbs feathered only at the ends, the valuable tree, cut with the axe or movable saw, and floated down stream in the form of trimmed logs, seems to approach extermination.

Fall of the Primeval Forest.

207. The Latin inscription ARBORES CADUNT EMERGNT HOMINES, with its third word abbreviated, (translated, trees fall men rise), refers to the immense change worked upon man and nature, when one of the greatest forests of the globe first yielded its shadow to the sunlight.

The House of Steel. 204. A fantastic serrated profile, as of castles and palaces, rises dream-like in the distance, where walls of immense height tower above windy highways, narrow in proportion, as the mediæval streets of old Europe. The vision fades as you approach, and enter scaffolds of Pennsylvanian steel, veneered with



207

(204 Continued)



204

the "horse" stiffened stack upon the ground, still (1908) kneels in the cold autumnal days as his colonial ancestor did, upon the dry stalks, tearing the husk from the ear by means of a peg of iron or wood strapped to the mid fingers of the right hand, and projecting between thumb and forefinger.

crusts of stone or brick, partitioned monotonously in fifteen or twenty congested layers (stories), of duplicated steam-heated pigeon holes (offices), where the modern American city, having overcrowded the earth, rises to the sky.

Husking Corn. 201. No machine having yet been invented to husk maize, the farmer, having thrown the unbound shock of stalks, cleared from



201

Shoemaker. 203. Before the days of country stores or shoe factories, the itinerant farm-hand shoemaker lodging at the farm house, bringing leather from the country tannery, carrying his tools with him, and finding lasts in the garret, made shoes for the family.



203

structive flocks, guided, guarded and generalled, scouting, watching, venturing, despising the scarecrow, evading trap and poison, guaging gun range as it extends, the ever-present crow, defying the northern winter, despoils the human spoiler, from the exact standpoint of the latter.

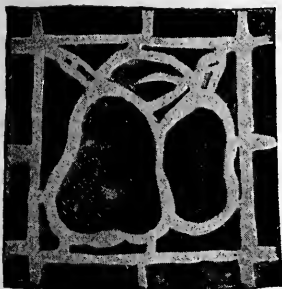
Pears. 227. (*Pyrus communis*.) Rival of the apple, and perhaps surpassing the peach and apricot, unknown in prehistoric America, cultivated from the large wild

The Crow. 202. (*Corvus americanus*.) Not from his striking color and figure, his anatomy or his habits according to the bird book, might the nonmigrating, incomparably sagacious, grain-eating crow claim distinction, but rather from the fact that he stands supreme among birds, as victorious in an eternal life struggle against the human maxim, man-condemned but man-practiced, that might makes right. Marshalled in de-



202

(227 Continued)



227

1800. It blew down in 1904.

The Sunfish. 317. Where the meadow brook deepens under hazel bushes, or plunges into the the milldam's pool, or where sunbeams piercing the warped boards of the old byroad bridge, illumine the scented water, barefooted children, with worm boxes poles strings pin hooks and puppy, peeping downward, behold the sunfish, akin to humanity in its eyes, fanning itself with winglike fins, a translucent



317

golden shadow in an enchanted water world.



190

desirable straws of which are too much torn by the thrashing machine.

Plover. 218. (*Aegialitis vocifera*.) Everywhere familiar with its cry of "kill-deer," its sensational flutterings, and feignings of lameness along meadow or pond, the long-legged, red eye-lidded, white collared plover, unmindful of cow or horse, demonstrates its love for eggs nest or young, by misleading in vain chase the destructive boy or bounding puppy in the hatching days of spring.

Skating. 302. The paintings of Ostade and Teniers show the sport of skating flourishing in Holland before the settlement of Pennsylvania. Introduced as a boyish sport by first settlers with metal

Thrashing With the Flail. 190. With a heavy club, loosely tied (sometimes fastened with a hickory swivel) to the end of a staff, the farmers, by an ancient method surviving from Roman times, club the grain from the wheat stalks. The familiar measured drumming sound of flails on the barn floor, generally superseded by the whirr of thrashing machines worked by horse treadmills, about 1860. The flail still (1908) used occasionally for rye, the



218

(302 Continued)



302

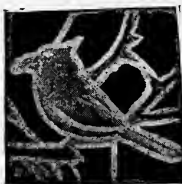
skates and derived from earlier boys' practice of propelling themselves across ice by thrusts of spiked staves, upon animals' shin bones strapped to the feet. Before 1856 very long steel projections of the skate runner curled back over the skater's toe.

Apples. 220. (*Malus*.) Originally produced in Persia, the apple of the north temperate zone, now Americanized, may well contest its claim with the orange of the tropics to be the greatest of the world's fruits.



220

Red-Bird. 219. (*Cardinalis cardinalis*.) Vivid, scarlet-crested, heavy-billed, active, non-migratory, named from the scarlet robe of the Catholic high ecclesiastic, most conspicuous of songsters,



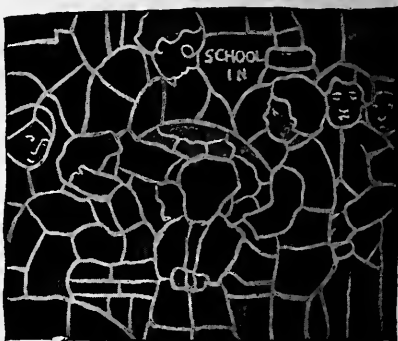
219

lurking in summer in chosen wet bramble thickets, or flashing hope and warmth into the drab woods of winter, the cardinal bird, rich in song, is often seen imprisoned for life in a small cage.

School In. 209. Before 1830, many school masters from Scotland taught Pennsylvania's English speaking youth, in school houses of logs, or octagonal buildings with desks ranged round the walls, and warmed by cast iron

("Dutch" warming, or later "ten-plate" warming and heating) stoves placed in the middle. The organizing of public schools with compulsory English instruction in 1840, superseding the older German schools in the Pennsylvania German districts, ended the art of Fraktur, or illuminated writing, and the punishment of the bocks brille (goats' spectacles), worn by bad boys when thrown at them by the teacher.

Shad. 206. (*Clupea sapidissima*.) Ascending eastern seaboard rivers in the spring to spawn, lost in winter in the ocean's depth, the sensitive graceful shad, dying in captivity, or at the friction of nets, immensely



209

prolific, migrating in shoals, protected by law, netted in the spring, was fried in the long-handled frying pan, broiled on the gridiron by the open fire of the old farm kitchen, or roasted on a plank by the bonfire of the Delaware River fisherman.



206

The Sower. 212. An open-mouthed bag hangs round the sower's left shoulder, and his right

(212 Continued)

hand seizes and scatters the grain, in time measured with his steps, as he strides across the plowed harrowed and rolled field.

Penn's Seal of Pennsylvania. 225. A shield with the arms of William Penn, against a background adorned with scrolls, and inscribed with the words "MERCY



212

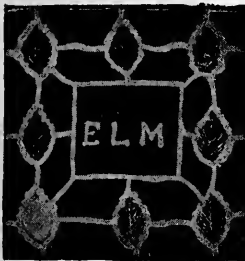
JUSTICE," is bordered by the circular inscription WILLIAM PENN PROPRIETOR AND GOVERNOR OF PENNSYLVANIA.



225

The Elm. 310. (*Ulmus americana.*)

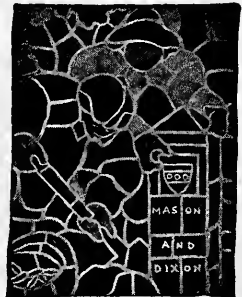
Less conspicuous and beloved for village shade than in New England, the white, American or water elm of Pennsylvania, often vase-shaped in the outline of its plumed branches, loves water courses and escapes the barbarism of Pennsylvania German village tree-topping, in moist woods. The most celebrated tree of its kind in Pennsylvania, venerated as shading the treaty of Penn with the Indians at Kensington in 1682, and protected from firewood hunters by the British General Simcoe's sentry in the Revolution, blew down in 1810 at an age of 283 years.



310

Mason and Dixon's Line. 300.

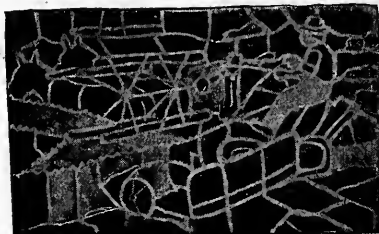
A series of marble posts inscribed each with a pair of small armorial shields, for William Penn and Lord Baltimore, (see specimens at Pennsylvania and Maryland Historical Societies), set five miles apart, and interplaced with less elaborate pillars, of which some still (1908) stand in place, marked the most celebrated boundary in the United States, surveyed by Charles Mason and Jeremiah Dixon between 1763 and 1767. The mosaic shows a negro workman setting one of the posts for the surveyors. Ever after regarded as dividing the territory customs and ideals of the north and south Atlantic States, dwelt upon during the Civil war in speech and story, baptizing the whole southern region with the name "Dixie," the celebrated boundary is often recalled by the words and music of two superlatively American songs, "I'se Gwine to Dixie" by C. A. White, and the still better known "Way Down South in Dixie" by Daniel Emmett, ancestor of negro minstrels.



300

Reaping Machine. 301. A large steel comb combs the grain stalks, at the same time cutting them by the cross horizontal

(301 Continued)



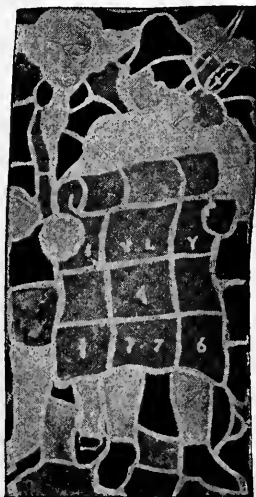
301

Factories. 216. Not architecture of beauty for man or state, but a stern confusion of irregular roofs, windy galleries, soot-dimmed windows and smoky towers, black gigantic and significant, rises against the sky above the modern city, to mark the dominance of machinery over human hand labor since 1820. Who shall measure the meaning of the nightly flash and perpetual roar, upon which the strength wealth comfort hope ignorance errors cruelty pride and success of modern humanity slowly advances to nobler things.

slash of internal triangular double-edged knives. Developed from various inventions in England and America by the middle of the 19th century, based upon the grain comb minus knives described by Pliny, and surviving in Pennsylvania as the "clover stripper" (see No. 188), the reaping machine superseded the primeval sickle, and the mediæval cradle scythe, about 1830.



216



303

Reading the Declaration of Independence. 303. While the soldier, as seen in the mosaic, reads the Declaration of Independence, a statesman stands by him, typifying the rival claims of war and states craft to the founding of the nation, and the soldier's denial, that in the revolution of 1776, the pen was mightier than the sword.

Potter at the Wheel. 314. Pushing with his bare foot a large wooden horizontal fly wheel, or stick strapped to a crank under the table, the seated potter, supplied with wooden scoop, wet leather, soaked cloth, water box, etc., causes a ball of plastic clay to revolve on a wooden disk in the table top, and to rise



314

into bowl shape, at the pressure of his wet slippery fingers.

Blowing the Conch Horn. 313. Farther than the jingle of mule bells on the tow path, and above the roar of the locked sluice, comes at evening the muffled far reaching mellow sound of the conch horn, a punctured shell of *strombus gigans*, blown by the lip vibration of the canal boatman, as the mule-towed boat approaches the lock.

(313 Continued)

Thus warned the dozing keeper opens the lock without loss of time, as the night end of the boatman's journey approaches. Still used (1908) on the Delaware and Lehigh canal.



313

talk directly along wires at from one to three hundred miles distance. Telephone invented as a high development of the work of earlier inventors by Alexander Graham Bell 1874-1877.

The Telephone. 307. The electric signalling of messages on wires, from great distances, was immensely enlarged in scope when man learned how to



307

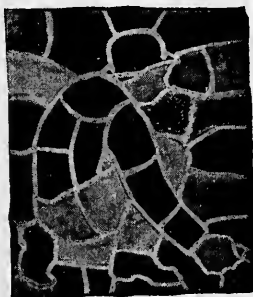
Hoeing Corn. 309. Maize, which will not ripen in the cool summers of England and North Germany, grows freely in the hot August suns of Pennsylvania. You helped the process by hoeing out the soil exhausting weeds, where between the corn stalks, because of interplanted beans or pumpkins, you dared not let a horse drag a cultivator. Hasten the work while the thunder cloud rolls overhead promising the refreshing help of summer rain. It was on the old field hoe with ferrule welded to blade, that a daub of plastered corn meal was baked into the negro's hoe cake over a bon fire.



309

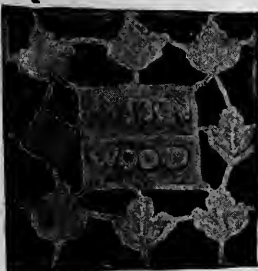
Boys Playing Marbles. 316. With little balls of burnt clay or glass, called marbles, and nicknamed "commies," "bullies," or "aggies," the boys shoot between

thumb and forefinger (knuckles down) "bullies" and other marbles, in and out of circles or ellipses, inscribed on the smooth trodden earth of town commons foot paths or school grounds. Thus trolling for first shot into the ring (common marbles), or shooting from the circumference (bully in the ring), or in or out of heel holes at a hand span's distance, contending in earnest "for keeps" as little gamblers, or "in fun," whether winning or "strapped," they



316

play an ancient game probably derived from bowls, familiar in eastern Europe in the 13th century. Brought to America from Britain. Played in Oldenburg Germany, and in Silesia (kugeln) about 1880.



308

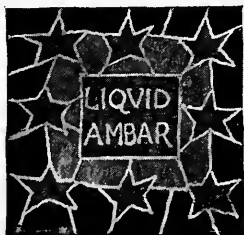
Buttonwood. 308. (*Platanus occidentalis*.) The huge sycamore tree, seventy to one hundred feet high, with conspicuous scaly bark, is decorated over winter with brown button-shaped fruit. Massive-limbed with open shade, early



346

creases rather than disappears before the same civilization which, in exterminating the blood-letting mink, has withdrawn from his life struggle the muskrat's worst enemy.

Trotting Horse. 304. As the chief attraction of state and county fairs, and the prime occasion of bets prizes and purses, carefully bred horses, driven by



311

its Asiatic cousins, producing the storax gum. With its five-pointed leaves of unsurpassable beauty, it outvies the foliage of maple trees, in the flaming glory of its autumn color.

The Sheep. 356. No American animals or birds (save the dog and turkey trained by Indian or Eskimo), having been domesticated by white North Americans, and all other domesticated animals and birds now established in North America, having been tamed in the old world, not by civilized man,



355

bared in autumn, and with glittering bark spotted with green and gray, the tree was the farmer's choice of old to shade the spring house.

The Muskrat. 346. (*Fiber zibethicus*.) The amphibious prolific muskrat, inhabiting lakes and streams, invading cultivated lands, threatening dams and canals, destroying the water lily and lotus where they had flourished before, defies man's efforts to dig him out and exterminate him, and in-



304

jockey drivers in light wagons or carts (sulkies), race on tracks at about 140 seconds per mile. The sport characteristic-ally American, in high favor about 1840-'80, now (1908) wanes in favor of horse races run, by horses with mounted jockies.

Sweet Gum. 311. (*Liquidambar styraciflua*.) The lofty erect sweet gum, with its burrlike brown winter fruit, winglets of corky bark skewered through its branches like the scales of an alligator, called liquid-ambar and alligator wood, is not so resinous as

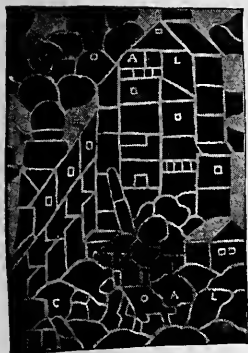


356

but by savages in the stone age, the sheep, contributor of wool clothing and mutton, and second only to the horse and cow as man's helper, Americanized by earliest settlers, came from Europe like the rest.

Grain Elevator. 355. Over-arching the freight car on its track, and the ship in its dock, a lofty building receives the world's food, as grain, lifted into its storage bins, on running straps armed with boxes, to drop it again through tubes into ship or car, for further transfer or export. The Latin

inscription NATIONIS GRANARIA is translated, granary of the nation.



Coal Breaker. 358. Grim uncouth fantastic, black with smoke and dust, a wooden structure with lofty windowed galleries rises against the sky. Through it the anthracite coal, lifted in masses from the mines of the Lehigh and Susquehanna, is crushed and run through various sieves, for "egg," "stove," "chestnut," "pea," "rice," and "buckwheat" sizes, to fall from aloft into cars.

Automobile. 353. When about 1900, the invention of light gasoline motor engines enabled the operation of road wagons by

358

mechanism at 20 miles or more per average hour, the now (1908) famous automobile appeared to revolutionize road traffic, improve highways, ease the toil of the horse, encroach upon the passenger transport of railroads, increase the personal contact of scattered individuals, and renew the city man's acquaintance with the country.



353

Camera and Photographer.

305. Photography the process rendered practical by Daguerre (1839) of staining the lights and shadows of natural objects in picture form upon sensitized glass, improved by reprinting from the glass picture upon sensitized paper, and developed by amateur experiments about 1885-1900, soon superseded older hand methods of picture making and picture reproducing. Marking the downfall of wood and steel engraving, the process while destroying certain forms of art, offsets the loss in its contribution to human progress.



305

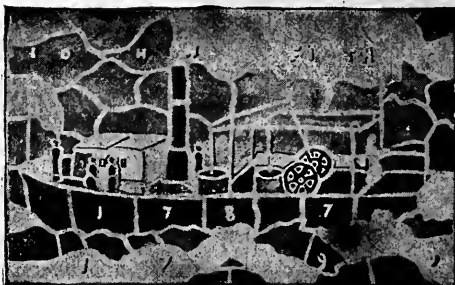
Penn's Seal of Philadelphia.

312. The mosaic shows a group of conventionalized houses surrounded with the inscription WILLIAM PENN PROPRIETOR AND GOVERNOR PHILADELPHIA. Devised for William Penn about 1682.

John Fitch's Steamboat. 306. The mosaic shows John Fitch's oared steam passenger boat plying on the Delaware River from Philadelphia to Bristol in 1790, seventeen years before Fulton's "Clermont" succeeded upon the Hudson River, and six years before Symington's "Charlotte Dundas" towed canal boats on the Clyde Canal, yet 247 years after Blasco de Gary, 83



312



306

a hand brush or cloth, against inked groups of assembled block letters. Reinvented by the Germans, Gutenberg and Faust, about 1450, and revolutionized by the Swiss-American Mergenthaler in 1895. Modernizing and vastly transforming human thought since the 16th century, it employed the labor of Benjamin Franklin in his earlier days.

Dragon Fly. 362. Believed to be the "Doctor" or feeder of the water snake,



362

children and type of the fire and energy of mid summer.

Rattlesnake. 366. (*Crotalus horridus*.) Less poisonous than the cobra of India, or the fer de lance of Martinique, devourer of small rodents, the deadly rattlesnake, where he survives in the Appalachians from New Hampshire to Florida,



360

is justly dreaded by man. About

four feet long, sluggish, coiling, rattling, reluctantly striking, the brown or blackish-yellow diaper-striped snake, was avoided and venerated by Indians and white men, and but very rarely conciliated by snake-loving mountaineers, who dare to pick up the fanged reptile in their hands.

Flying Squirrel. 360. (*Sciuropterus volans*.) Nocturnal, dwelling in large gnawed holes in dead trees, old house cornices, deserted garrets, or summer houses,

(306 Continued)

years after Dennis Papin, and 7 years after de Jouffroy. Many schoolboys in the United States have been erroneously taught that Robert Fulton invented the steam boat. See page 73.

Franklin's Press. 352. Printing invented by the Chinese as a process of pressing sheets of paper, by rubbing with

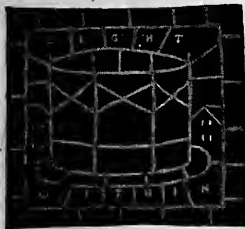


352

half-hypnotized mullet ("sucker") from his water hole under the bank. The dragon fly in several closely related family forms as "snake feeder" or "mosquito hawk," emerging from an early submarine life to cast its shell and take wing, vies with the butterfly as a charmer of



366



369

sometimes imprisoned in tin cages by the farmer's boy, the beautiful flying squirrel outvies in celebrity many larger animals, by flitting at night diagonally from tree to tree upon winglike extensions of its leg skin.

Gasometer. 369. A huge bolted sheet iron bottomless barrel-shaped vessel, floating by gas compression on a tank of water, and pressing illuminating gas through pipes into city and village houses. Since about 1830, illuminating gas, made from coal, has contended and still (1908) contends with electricity as a house and street light.

Plover. 361. (*Aegialitis vocifera*.) Everywhere familiar with its cry of "kill-deer," its sensational flutterings and feignings of lameness along meadow or pond, the plover, unmindful of cow or horse, demonstrates its love of eggs nest and young, by misleading in vain chase, the destructive boy or bounding puppy in the hatching days of spring.

Potter Terrapin. 363. (*Pseudemys rugosa*. Having learned to eat tortoises in general from the Indian, who continually



361

roasted them on open fires, the white man digs the hibernating red-bellied native terrapin from the submarine mud of fresh water streams, and throwing him alive into boiling water, cleans cooks and eats him eggs and all. Outranking for man's food all national dishes save the canvas-back duck, the reptile is threatened with extermination in Pennsylvania, where he is easily confused with the yet more



363

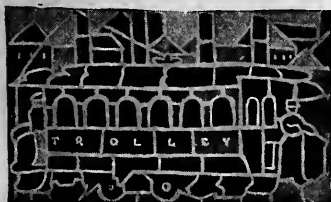
esteemed salt water terrapin (*Malacoclemmys palustris*). When the meat of the latter sells for from five to seven dollars per quart in Philadelphia, the vendor may stir in fifty or seventy five percent. of the bones flesh and eggs of the "potter," whereupon few epicures can detect the cheat.

Shad. 357. (*Clupea sapidissima*.) Netted while ascending in shoals eastern seaboard rivers in the spring to spawn, protected by law, lost in winter in the ocean's depth,



357

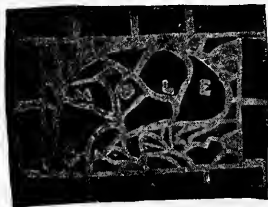
the immensely prolific sensitive graceful shad, dying in captivity or at the friction of nets, was fried in the long-handled frying pan, broiled on the gridiron by the open kitchen fire, or roasted on a plank, by the bonfire of the Delaware River fisherman.



351

Trolley Car. 351. Made practical after several previous inventions (Siemens and Halske,

Berlin 1879 and Van Depole and others about 1884), about 1885, running on tracks generally placed on city streets or country turnpikes, by a current of electricity passing through a wheeled iron rod sprung against an overhead wire. Boxed or open, windowed, heated, rapid, light and easily stopped, carrying freight and passengers from place to place, the electric railway car or trolley, has resulted in an immense outstretching of city and town life into the country, a great disturbance of rural conditions, and the ready introduction of the secluded farmer to town and city.



354

heaps of excavated earth rise to the surface to mark his work. Not where the truckman grumbles at young vegetable roots dried by the uplift of these undermining tunnels, nor where the man with the lawn mower and rake artificializes nature in village or graded suburb, but where by the old "barn bridge" geese and sheep pasture upon the ancient sod, may the observer mark with pleasure, the ramifying lines of darker green shadow, pencilled upon the turf, marking the upswelling vaults of the moles' galleries that settle back after a rain.

Gettysburg. 389. A struggle between citizens of the United States at Gettysburg in 1863, decided against the continued inconsistent existence of negro slavery in the liberty asserting United States, and against the division of the Republic into two nations.



389



13

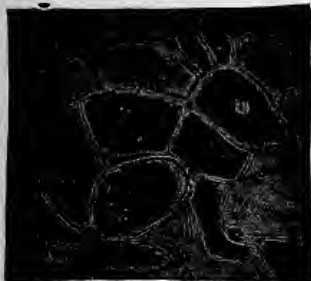
advent of the European grain cradle or of the Hainault scythe (dispensing with stalk grasping), and finally the reaping machine, the greatest craft of husbandry changed suddenly and forever.

Washington Crossing the Delaware. 402. On Christmas night 1776, General Washington led the American army secretly in flatboats across the Delaware River, just above the present (1908) bridge at Morrisville, Bucks county, and surprising the Hessian army employed by the British, defeated them at Trenton, and captured their General Rahl.

Reaping With the Sickle. 13. Lean forward and seizing a large bunch of wheat or rye with the left hand, cut the stalks near the ground, by drawing the keen serrated, narrow sickle blade across them from left to right. Then as the mosaic shows, you reap as your ancestors did from Egyptian times until about 1820, when at the



402



371

Rabbit. 371. (*Lepus floridanus*.) With brown cinnamon and gray fur, and white under tail, very prolific, subsisting on roots and vegetables, burrowing, crouching till almost touched, very fleet, doubling to escape dogs, the rabbit defies extermination, in spite of gunners in season, minks, weasels, crows and hawks. Hard is the heart which unmoved to pity, sees the terrified rabbit crouching by log or weed stalk, while the dogs bark and race in distant circles.

to eat tortoises in general from the Indian, who continually roasted them on open fires, the white man digs the hibernating red-bellied terrapin from the deep mud of fresh water streams, and throwing him alive into boiling water, cleans cooks and eats him, eggs and all. Out-ranking as man's food, all national dishes save the canvasback duck, the reptile is threatened with extermination in Pennsylvania, where he is easily confused with the yet more esteemed salt water terrapin (*Malacoclemmys palustris*). When the meat of the latter sells at from five to seven dollars per quart in Philadelphia, the vendor may stir in from fifty to seventy-five per cent. of the bones flesh and eggs of the "potter", whereupon few epicures can detect the cheat.

Potter Terrapin. 372. (*Pseudemys rugosa*.) Having learned



372

INDEX.

	Page.		Page.
Amulet, Indian	3, 8	Corn, Indian Hoeing	8
Applebutter, Making	35	Corn, Shelling	68
Apples	79, 86	Cow, Milking the	45
Apples, Paring	38	Crab	65, 77
Arms of Pennsylvania	65	Creek, Oil	15
Arrowheads	3, 7, 9, 10, 13, 14	Cricketer	64, 71
Automobile	91	Crow	21, 84
Axes	23	Death of Braddock	62
Axe, Stone	3, 10, 11	Death of Tammany	81
Bake Oven	59	Declaration of Independence	88
Baking, Woman	59	Delaware, Washington Crossing	46, 94
Baltimore Oriole	27, 65	Dinner Horn	29
Banner Stone	9	Dipping Candles	34
Barn Owl	70	Dixon and Mason	87
Barrack	69	Dog	58
Basket Maker	20	Dragon Fly	41, 92
Bat	42, 60	Drawings, Indian	14, 17, 21, 62
Battleship	51	Drill, Indian	11
Bear	5, 40, 56	Duck	31, 38, 50, 71
Bear Trap	43	Dugout Canoe	10
Beaver	25, 80	Dutch Oven	55
Bee, Bumble	80	Dutch Scythe	26, 27
Beehive	25	Eagle	20
Bell, Liberty	50	Eel	75
Belt, Indian Wampum	18	Elevator, Grain	90
Blackbird	29	Elk	33, 48
Blast Furnace	71	Elm	13, 72, 87
Blowing Horn	29, 88	Engine, Locomotive	57
Blue Jay	20, 53, 80	Factories	88
Bow, Indian Shooting With	11	Fall of the Forest	83
Box, Tinder	39	Farm Fence, Making	41
Box Tortoise	19, 78	Felling the Forest	23, 80
Boy Rolling Hoop	63	Fence, Farm	41
Braddock, General	62	Fire, Indian Making	4
Brake, Flax	47	Fire, River of	15
Breaker, Coal	91	Fire, Frying in Open	38
Brick Making	42	Fitch's Steamboat	73, 91
Brooch, Indian	15, 22	Flagon, Cider	43
Bucks County Seal	74	Flail	35, 85
Bullfrog	16, 74	Flax Brake	47
Bumble Bee	80	Flax Reel	54
Butter, Apple	35	Flax Spinning	31
Butter, Churning	57	Flax Swinging	41
Butterfly	44, 52, 79	Fluid Lamp	39
Buttonwood	6, 89	Fly, Dragon	41, 92
Camera and Photographer	91	Fly, House	44, 92
Canal Lock	88	Flying Squirrel	56, 97
Candles, Dipping	34	Forest, Clearing the	32
Candlestick	39	Forest, Fall of the	83
Canoe, Dugout	10	Forest, Felling the	23, 80
Canoe, Indian Making	10	Forging a Chain	48
Canoe, Indian Paddling	9	Foster, Stephen Collins	61
Carapace, Turtle	62, 65	Fox	16, 51
Cardinal Bird	26, 33, 86	Franklin's Kite	79
Carpenter's Hatchet	40	Franklin's Press	92
Car, Trolley	93	Frow	59
Carvings, Indian	19, 20, 21, 75, 77	Frying in Open Fire	38
Casting Iron	52	Furnace, Blast	71
Catalpa	7, 11	Gasometer	93
Catbird	28, 32	German School	68
Catching Terrapin	37	Germantown Seal	49
Cat, Wild	15, 66	Gettysburg	61, 94
Celt, Indian	14	Gorget, Indian	7, 9
Ceremonial Gorget	9	Grain Elevator	90
Ceremonial Mask	3, 5	Grapes	50, 59, 83
Ceremonial Stone	9, 12	Grasshopper	53, 54, 70, 76
Chain, Forging	48	Grey Squirrel	24, 28, 30, 55
Cherries	7, 45, 69, 73	Gridiron	43
Chicken Cock	68	Grinding Corn	6
Chickens	51, 67	Gristmill	30
Children	17	Grooved Axe	3, 10, 11
Chimney Swallow	32, 74	Grooved Net Sinkers	4
Churning Butter	57	Gum, Sour	23, 26, 29, 31, 34, 37
Cider Flagon	43	Gum, Sweet	6, 90
Clearing the Forest	32	Hatchets	40
Clover Stripper	82	Hawk	20, 33
Coach, Stage	72	Head, Human	17
Coal Breaker	91	Heckewaelder	10, 54
Coal Dealer's Wagon	49	Heron	43
Coal Miner	49	Hickory	24, 27, 29
Cock, Chicken	68	Hoeing Corn	8, 89
Conch Horn	88	Hominy	39
Cones, Pine	14, 45, 47, 70, 79, 83	Hoop, Boy Rolling	63
Conestoga Wagon	45, 60	Horn, Conch	88
Cooking Applebutter	35	Horn, Dinner	29
Corn, Hoeing	89	Horse Shoeing	62
Corn, Husking	40, 84	Horse Trotting	30
Corn, Indian	8	House Fly	44, 67
Corn, Indian Grinding	6	House, Letitia	56

INDEX.

	<i>Page.</i>		<i>Page.</i>
House, Log	22	Netsinker, Indian	4
House of Steel	83	North and South	61
House Pump	67	Oak Leaves	3, 22, 33, 36, 47, 72, 81
Human Head	17	Oil Creek	15
Husking Corn	40, 84	Oil Well	49, 63
Independence, Declaration of	88	Open Fire Frying	38
Indian Amulet	3, 8	Open Lock	88
Indian Arrowhead	3, 7, 9, 10, 13, 14	Opossum	5, 28, 58, 67
Indian Axe	3, 10, 11	Orchard Oriole	24, 32
Indian Basket Maker	20	Oriole, Baltimore	27, 65
Indian Belt	18	Oriole, Orchard	24, 32
Indian Brooch	15, 22	Oven, Bake	59
Indian Canoe	9	Oven, Dutch	55
Indian Carvings	19, 20, 21, 75, 77	Owl, Barn	70
Indian Celt	14	Owl Man, Mask	5
Indian Corn	8	Owl, Screech	35
Indian Drawings	14, 17, 21, 62	Oysters	53, 54, 68
Indian Drill	11	Paddling Canoe	9
Indian Gorget	7, 9	Panther, Indian	78
Indian Grinding Corn	6	Paring Apples	38
Indian Hoeing Corn	8	Pears	79, 81, 84
Indian Knife	3	Pennsylvania Arms	65
Indian Making Canoe	10	Pennsylvania Seal	70, 72, 87
Indian Making Fire	4	Penn's Treaty	42
Indian Making Spearhead	6	Pestle and Mortar	42
Indian Mask	3, 5	Philadelphia Seal	82, 91
Indian Net Sinker	4	Photographer	91
Indian Paddling Canoe	9	Picture, Indian	7, 14, 21, 62
Indian Panther	78	Pine Cones	14, 45, 47, 70, 79, 83
Indian Picture	7, 14, 21, 62	Pioneer Rifleman	24, 55
Indian Pipe	3, 8, 10, 11, 13	Pipe, Indian	3, 8, 10, 11, 13
Indian Quarrying	16	Pipe, Indian Tubular	11
Indian Rattlesnake	7, 19, 22	Plate, Steel	46, 82
Indian Shooting With Bow	11	Plate, Stove	36, 40
Indian Smoking	12, 18	Playing Marbles	89
Indian Stone Spade	4	Plover	85, 93
Indian Tubular Pipe	11	Plow, Shovel	25, 36
Indian Turtle	76	Plow, Wooden	56
Indian Walk	28	Porcupine	20, 71
Indian Wampum Belt	18	Potter at Wheel	88
Indians, Massacre of	13	Potter Terrapin	78, 93, 95
Iron Casting	52	Pounding Hominy	39
Iron Miner	64, 66	Press, Franklin's	92
Jasper, Quarrying	16	Primitive Smoking	12, 18
Jay, Blue	20, 53, 80	Pump	67
Keystone	51, 55, 66	Quail	15, 44, 73
Kingfisher	41, 74	Quarrying Jasper	16
Kite, Franklin's	79	Quarrying, Indian	16
Kittens	60	Rabbit	64, 76, 95
Knife, Indian	3	Raccoon	16, 78
Lamp, Fluid	39	Rattlesnake	7, 18, 19, 22, 63, 76, 92
Lamp, Lard	37	Reaping Machine	87
Lantern	31	Reaping With Sickle	25, 60, 94
Lard Lamp	37	Red Bird	26, 33, 86
Leaves, Oak	3, 22, 33, 36, 47, 72, 81	Redbud	12, 34, 64
Letitia House	56	Red-eyed Vireo	24, 34
Liberty Bell	50	Red Fox	16, 51
Linden	5, 6	Reel, Flax	54
Lock, Canal	83	Rifleman	24, 55
Lock, Open	88	River of Fire	15
Locomotive Engine	57	Robin	30, 74
Locust	18, 41	Rolling Hoop	63
Log House	22	Scarlet Tanager	27
Loon	49, 59, 66	School	68
Machine, Reaping	87	School In	86
Making Baskets	20	School Out	83
Making Bricks	42	Screech Owl	35
Making Canoe	10	Scythe	26, 27
Making Farm Fence	41	Seal of Bucks County	74
Making Fire	4	Seal of Germantown	49
Making Spearheads	6	Seal of Pennsylvania	70, 72, 87
Man, Owl	5	Seal of Philadelphia	82, 91
Man Using Frow	59	Shad	61, 86, 93
Maple	35	Sharpening Scythe	27
Marbles, Playing	89	Sheep	63, 90
Mask Amulet	3	Shelling Corn	68
Mask, Indian	3, 5	Shingles, Splitting	33
Mask of the Owl Man	5	Shoeing Horse	62
Mason and Dixon	87	Shoemaker	84
Massacre of Indians	13	Shooting, Indian with Bow	11
Massacre of Wyoming	40	Shovel Plow	25, 36
Milking the Cow	45	Sickle	25, 60, 94
Miner, Coal	49	Sinker, Indian Net	4
Miner, Iron	61, 66	Skating	85
Mole	77, 94	Skillet	71
Moose	43	Skunk	50, 54, 57
Mortar and Pestle	42	Smoking by Indian	12, 18
Moth	69	Snapping Turtle	46, 59, 66
Muskrat	17, 52, 90	Sour Gum	23, 26, 29, 31, 34, 37

INDEX.

	Page.		Page.
South and North	61	Tin Lantern	31
Sower	86	Tortoise	19, 78
Spade, Indian Stone	4	Trap, Bear	43
Sparrow	26, 38, 75	Treaty of Penn	42
Spearhead	4, 14	Trolley Car	93
Spearhead, Indian Making	6	Trotting Horse	90
Spider	13, 17	Tubular Pipe	11
Spinning Flax	31	Turkey, Domestic	44
Spinning Wool	48	Turkey, Wild	19, 81
Splitting Shingles	33	Turtle Carapace	62, 65
Spud	36, 47	Turtle, Indian	76
Squirrel, Flying	56, 92	Turtle, Snapping	46, 59, 66
Squirrel, Grey	24, 28, 30, 55	Type Setter	69
Stage Coach	72	Typewriter	64
Steamboat	73, 91	Vireo	24, 34
Steel, House of	83	Wagon, Conestoga	45, 60
Steel Plate	46, 82	Wagon, Coal Dealer's	49
Stone Axe	3, 10, 11	Walk, Indian	28
Stone Ceremonial	9, 12	Wampum Belt	18
Stone Spade	4	Washington Crossing Delaware	46, 94
Stove Plate	36, 40	Weasel	21, 52, 76
Stripper, Clover	82	Well, Oil	49, 63
Sunfish	85	Well Sweep	62
Swallow	32, 74	Wheel, Potter at	88
Swamp Blackbird	29	Wheel, Wool	48
Sweep, Well	62	White Children	17
Sweet Gum	6, 90	Wild Cat	15, 66
Swingling Flax	41	Wild Duck	31, 38, 50, 71
Tammany	81	Wild Turkey	19, 81
Tanager	27	Wolf	10, 82
Telegraph	52	Woman Baking	59
Telephone	89	Wooden Plow	56
Terrapiu	78, 93, 95	Woodpecker	30, 34, 57
Terrapin, Catching	37	Wool, Spinning	48
Thrashing with Flail	35, 85	Wool Wheel	48
Tinder Box	39	Wyoming Massacre	40

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Page 46, under No. 90.
Page 94, under No. 402.
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